

U.S. Army Institute for Water Resources Planning and Policy Studies Programs

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OPPORTUNITIES TO IMPROVE REGULATION OF AQUATIC RESOURCES ON A WATERSHED-BASIS: REGULATORY AND PLANNING LINKS IN THREE CORPS DISTRICTS

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Executive Summary

Numerous watershed or regionally-based studies now being initiated through different Corps programmatic authorities have the potential to support a Corps Regulatory program watershed perspective approach. These studies have been initiated using various Civil Works Study authorities or in specific response to Corps regulatory authority. This report identifies linkages between Corps Regulatory and Planning Programs in watershed or regional studies in the Los Angeles, Baltimore, and Jacksonville Corps Districts that have the potential to contribute towards aquatic resources planning for the purposes of supporting Corps Regulatory Program permit decisions on a nationwide basis.

This report (1) describes various types of watershed or regionally-based studies that include activities from which watershed or regionally-based permitting procedures could be developed and (2) examines interactions between regulatory and planning staffs in the various types of watershed or regional planning initiatives. Interactions examined include: (1) contributions of non-regulatory Corps staff toward regulatory-driven aquatic resources planning efforts and (2) participation of Corps regulators in non-regulatory Civil Works planning studies.

Many watershed studies focus on a relatively large geographic area, e.g., region, designated by and in response to non-Federal interests. As such, varying the "watershed" study may be circumscribed by geo-political boundaries. Corps watershed studies have differing anticipated purposes and goals. Whereas regulatory-driven watershed studies will focus on aquatic resources for the purpose of developing a plan to assist permit decision-making, non-regulatory initiatives may focus on an array of water resource-related topics and can result in a variety of products including a plan which identifies recommended actions such as Corps projects. What should be central to both studies is the concept of "watershed perspective", a viewpoint that recognizes land and water resources interconnectedness and the dynamic nature of the economy and the environment. What is also central is the opportunity to generate one body of information for the benefit of both programs, which is more efficient and cost effective, as well as offering "one door to the Corps."

The types and amount of information utilized by Corps planners in watershed studies overlap information utilized in development of regulatory-based watershed aquatic resources plans. The overlap, or intersection, of the information may vary in terms of the information used by each of the types of studies. However, similar factors should be expected to affect both analyses and study products.

This report examines three Corps districts where both the regulatory and non-regulatory programs have directed or are directing watershed studies. Planning and regulatory staffs were interviewed. The Los Angeles District planning staff are (or have) conducting several General Investigation watershed studies (non-regulatory-driven), and regulatory staff are conducting Special Area Management Plan (SAMP) studies. The Jacksonville District is pursuing large-scale regional planning study efforts (e.g., the Central and Southern Florida Project Comprehensive Review Study) that involve regulatory participation and coordination. The Baltimore District has parallel studies of the same watershed in the planning and regulatory programs.

Watershed or regional studies have been initiated using at least two Civil Works non-regulatory study avenues, programmatic and individual level authorities. Programmatic authorization and funding efforts, such as the Planning Assistance to States Program, allows the Corps to use its expertise to help Tribes and States better manage water resources. Individually authorized studies are specifically described in legislation (e.g., Water Resources Development Acts (WRDA) and are funded through the General Investigation (GI) framework. While these studies typically focus on water resources issues, they have the potential to produce a level of aquatic resources information useful to Corps regulators in subsequent permitting decisions.

The GI study authorization and funding approach has been utilized in the Los Angeles District to initiate a regulatory-focus watershed study--a SAMP. The Los Angeles District has also applied the Section 22 program to develop products of use for regulatory decisions. This approach has been used to conduct and prepare Floodplain Maintenance Plans for portions of two streams. These efforts have only focused on a portion of the watersheds. This funding approach could not be used for development of more extensive watershed and aquatic resource plans. Planning staff conducted the two Section 22 studies, with input from Regulatory staff; regulatory staff had suggested to non-Federal sponsors that this venue could be utilized when it appeared that a more comprehensive analysis was warranted for permitting floodplain maintenance activities than would have been accomplished otherwise.

In addition to SAMPs and Advance Identification of Disposal Sites (ADIDs), (frequently used in some Corps districts for the intention of producing aquatic resource plans upon which to develop watershed-based regulatory permitting procedures), other approaches have been utilized by Corps regulatory staff to initiate watershed studies as part of their authorities. These approaches include (1) watershed- or regionally-based Environmental Impact Studies (EISs) and (2) Stream-corridor assessments. The former approach is a direct attempt to satisfy National Environmental Policy Act requirements for permit decisions in watersheds with expected extensive cumulative impacts in rapidly urbanizing regions. In these instances, data gathering and synthesis is accomplished through third party contracts and interagency teams. The latter approach produces field information that can be utilized by Corps regulators in subsequent permit applications within the study area.

A regulator's knowledge of the condition of the resources within a watershed coupled with the programmatic (permitting history) in that watershed can be a valuable contribution to Planning watershed studies. For example, this can be used in describing baseline conditions as well as future without and with project conditions.

Corps water resources and environmental planners can make any of several potential contributions to the development of aquatic resources plans for utilization by the Corps regulatory program. The specific mix and level of contributions will vary. The need to consider potential Corps planner/environmental planner contributions is underscored by the many SAMP efforts to date that have not produced aquatic resources plans upon which streamlined permitting procedures can be established for the regulatory program.

Potential planner/environmental planner contributions to aquatic resources planning:

- study management
- study scoping
- plan formulation (alternative development, evaluation, and comparison)
- public involvement
- staff support for aquatic resources inventory and assessment
- economic evaluation
- database construction and/or maintenance (e.g., GIS)
- aquatic resources plan development

Collaboration between regulatory and planning functions of the Corps enhances the "one door to the Corps" concept.

Review of the three case study districts indicates that planning and regulatory staffs are pursuing varying types of partnering and study funding. Regulatory and planning staffs are attempting to share data and information (e.g., via Geographic Information System (GIS) development). However, Corps personnel are still learning, to varying degrees, about each other's programs and activities. There still appears to be numerous misconceptions and mysteries between planners and regulators regarding the different programs.

One reason planning staff may not be involved in regulatory-originated watershed efforts is the lack of a designated funding source. In terms of the Civil Works Planning Studies, it appears that regulatory staff will need to be dedicated to the respective Planning studies if the regulatory tasks listed in study scope of works and project schedules are agreed upon. Nonetheless, non-Federal sponsors and the public want the Corps to collaborate on their water resources activities within watershed areas for consistency and process efficiency.

The following actions will assist in the completion of watershed studies and aquatic resources plans that support both the Corps regulatory and planning program missions.

- > Establish principles for completing SAMPs and promoting Regulatory staff interaction on watershed initiatives, including Planning watershed studies.
- > Conduct workshops with both regulators and planners to identify types of information that their programs use and need in their respective analyses. (This would be one step to identifying how planners and regulators might contribute to the other's studies or projects.)
- > Designate program/study liaisons in both Regulatory and Planning at the District level.
- > Include Regulatory Coordination as a standard sub-account on all Project Study Plans (also referred to as Project Management Plans).
- > Continue to share information and ideas, making our products more desirable to a wider variety of the public.
- > Encourage the joint development of databases that are relevant to both programs (e.g. GIS)
- ➤ Encourage job-exchange programs between Planning and Regulatory.
- > Provide cross-training opportunities (e.g., Regulatory I and II prospect courses, Planning, Principles, and Procedures prospect course)



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Glossary

Planning Terms

- Feasibility study/phase The second phase in the development of a Corps project. It includes detailed evaluations of the problems, opportunities, and alternatives, including the benefits, costs, and impacts associated with potential alternatives. It leads to a decision on a proposed plan of action.
- General Investigations Studies Civil Works Planning Studies that are funded through the General Investigations budget.
- Planning Process The Corps planning process follows the six-step process defined in the Principles and Guidelines. This process is a structured approach to problem solving which provides a rational framework for sound decision-making. The six-step process is used for all planning studies conducted by the Corps of Engineers. The process is also applicable for many other types of studies. (ER 1105-2-100).
- Preconstruction, Engineering, and Design (PED) phase During this phase, the detailed designs of the proposed project are completed. This includes determining the flexibility in design specifications; identifying ways to reduce project impacts and costs; coordination with team members, sponsors, and interests; and finalizing official documentation of non-Federal support of the project.
- Principles and Guidelines (P&G) The P&G are comprised of two parts: The Economic and Environmental Principles for Water and Related Land Resources Implementation Studies and the Economic and Environmental Guidelines for Water and Related Land Resources Implementation Studies. Together, both parts provide the framework for Corps water resources planning studies. Within this framework, the Corps seeks to balance economic development and environmental needs as it addresses water resources problems. (ER 1105-2-100).
- Project Study Plan (PSP) This document, also referred to as the Project Management Plan (PMP), is prepared and negotiated during the reconnaissance phase to identify the Federal and non-Federal efforts required to conduct the feasibility phase. (ER 1105-2-100)
- Reconnaissance study/phase The first phase in the development of a Corps project. It includes a preliminary assessment of the problems and opportunities, the alternative solutions that might be employed, and a decision as to whether further study is justified.

Regulatory Terms

Advance Identification of Disposal Areas (ADID's) –Identification of aquatic sites considered to be either generally unsuitable as disposal sites or generally suitable as possible future disposal sites. The Section 404(b)(1) Guidelines provide for EPA and the Corps to conduct ADID's together. The EPA and the Corps can initiate ADID's, on their own or

- at the request of any other party. A Tribe or a State can initiate ADID's if they have assumed the Section 404 permitting program. ADID designations are to be used as guidelines and are not considered as advance prohibitions or permits. ADID's have been mainly aquatic resources characterization (and information gathering), but should result in general permits for the identified generally suitable disposal sites (areas where permitting can occur).
- Alternatives analysis Evaluation and comparison of impacts and consequences of alternative project locations and/or configurations to provide a clear basis for decision making. The objective of the analysis is to verify that the project to be approved is the least environmentally damaging, practicable alternative.
- General Permits Developed to streamline the authorization process. General permits are not developed for an individual applicant, but cover activities the Corps has identified as being substantially similar in nature and causing only minimal individual and cumulative adverse effects pm the aquatic environment. These permits may cover activities in a limited geographic area (e.g., county or state), a particular region of the county (e.g., group of contiguous states), or the nation. The Corps element developing such permits is that one which has geographic boundaries encompassing the particular permit. Processing such permits, closely parallels that for individual permits, with public notice, opportunity for hearing and detailed decision documentation.
- Individual Permits The basic form of authorization used by Corps. Processing such permits involves evaluation of individual, project specific applications in what can be considered three steps: pre-application consultation (for major projects), formal project review, and decision making.
- Planning Assistance to States (and Tribes) This cost-shared studies program, authorized in Section 22 of the 1974 Water Resources Development Act, directs the Corps to provide technical support and expertise to assist States and Tribes manage water resources.
- Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230). Applications for fill in waters of the United States are evaluated using these Guidelines developed by EPA in conjunction with the Department of the Army.
- Special Area Management Plans (SAMP's) Detailed and comprehensive statements of policies, standards, and criteria to guide public and private uses of lands and waters, and the mechanisms for timely implementation in the specific geographic areas. SAMP's, authorized by a Coastal Zone Management Act amendment (1980), are comprehensive plans providing for natural resource protection and reasonable economic growth. The Corps Regulatory Guidance Letter (RGL) 86-10 (extended by RGL 92-03) states that the SAMP process—collaborative interagency planning within a geographic area of special sensitivity may be applied for regulatory purposes in non-coastal areas. The RGL states that SAMP's should be conducted with the expectation of developing definitive products that can decrease regulatory workload and increase program efficiency. The Corps should be clearly in the lead Federal role with a strong state or local regulatory partner.

Chapter One Introduction

Report Purpose and Scope

This report identifies potential linkages between U.S. Army Corps of Engineers (Corps) Regulatory and Planning Programs for the purpose of undertaking watershed or other similar types of studies (e.g., regional) that may lead to the development of streamlined permitting processes and improved regulatory decision-making. This report (1) describes various types of watershed or regionally-based studies that include those from which watershed or regionally-based permitting procedures have been developed and (2) examines how regulatory and planning staffs interact in the various types of watershed or regional planning studies. Interactions examined include: (1) contributions of non-regulatory Corps staff toward regulatory-driven aquatic resources planning efforts and (2) participation of Corps regulators in non-regulatory Civil Works planning studies.

This report focuses on those watershed or similar aquatic resources planning efforts that contribute or have the potential to contribute to improving the implementation of the Corps Regulatory Program. Typically, the Corps planning studies do not focus on recommendations for the improved regulation of aquatic resources. However, aquatic resources may be an identified component of the particular study and resulting projects.

The report examines three Corps districts:

- (1) the Los Angeles District, where planning staff are (or have) conducting several General Investigation watershed studies (non-regulatory driven) and regulatory staff are commencing Special Area Management Plans (SAMPs). One SAMP study area includes the study area of a Civil Works planning watershed study;
- (2) the Jacksonville District where there are large-scale regional planning study efforts (e.g., the Central and Southern Florida Project Comprehensive Review Study, also called the "Restudy") and regulatory participation and coordination; and,
- (3) the Baltimore District where there are parallel studies of the same watershed in the planning and regulatory programs.

These districts were purposely selected, because both the regulatory and non-regulatory programs had directed or were directing watershed studies. Planning and regulatory district staffs were interviewed.

A glossary of planning and regulatory terms used in this report is found on page xi.

Background

Watershed-based solutions for protection and restoration of aquatic resources, including wetlands protection and restoration, now have many advocates. Recent Administration initiatives emphasize a watershed planning approach and the Clinton Administration Wetlands Plan strongly supports incentives for Tribes, States, and localities to engage in watershed planning as a means to reduce conflicts between wetlands protection and land development. The Vice-President's 1998 Clean Water Action Plan (CWAP) embraces and promotes a watershed approach through key actions including the State and Tribe Unified Watershed Assessments and the Unified Federal Water Policy

The Corps Regulatory Program supports a watershed or regional approach through the SAMP process authorized by the Coastal Zone Management Act. The Corps also supports the U.S. Environmental Protection Agency (EPA) in the Advanced Identification of Disposal Sites program (ADID) which identifies suitable or unsuitable locations for disposal of dredged or fill material. The Corps can address aquatic resources permitting issues, including wetlands, through regional general permit programs on a watershed or regional basis. The regulatory program allows the Corps to promote a watershed approach with a state, county, or other local government, using regional general permits, without a SAMP or ADID or other Federal effort.¹

The watershed perspective applies to all Corps Civil Works programs through planning, design, construction, operation, maintenance, and rehabilitation. The Corps is currently identifying opportunities for synergy among the different Civil Works program areas and implementing the watershed perspective as a way of managing watershed resources. Towards that objective, the Corps has developed Policy Guidance Letter No. 61 "Application of Watershed Perspective to Corps of Engineers Civil Works Water Resources Management Programs and Initiatives" that describes the Corps Civil Works watershed philosophy and associated principles.

In a parallel effort, the Environmental Advisory Board (EAB) for the Chief of Engineers has focused on watershed planning. The EAB identified and discussed the watershed approach in their April and September 1998 meetings, including the topic of Corps regulatory program involvement and contribution to watershed planning.

Organization of Report

Chapter Two describes types of watershed or "watershed-like" studies (e.g., regional) and initiatives. Chapters Three through Five examine watershed studies in three Corps districts. Each chapter has the following:

(A) Identification and description of the various types of watershed studies and initiatives being conducted and how they are initiated. Also included are discussions of studies that would not likely be considered "watershed" studies by some. Examples include studies in which there

¹ See IWR Report 97-PS-2, "Watershed Study Impediments: Field Regulatory Survey Discussion Paper" (December 1997, IWR Policy and Special Studies Division) for a more detailed discussion of Corps regulatory participation in watershed planning.

was a potential for an aquatic resources regulatory component and there was a regional aspect or scale (e.g. a large stream reach) beyond that of an individual project/impact site.

- (B) A more detailed discussion of a selected number of watershed/regional studies and initiatives from the larger population of watershed/regional studies. Particular emphasis is placed on those studies that have progressed the furthest in their planning process, although not to the extent to exclude any new contributions and linkages being developed between planning and regulatory elements. The discussion focuses on:
 - (1) Why and how the effort was initiated;
 - (2) Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources;
 - (3) Expected products (especially with respect to regulatory needs);
 - (4) Outputs/results to date; and
 - (5) District views on regulatory and planning linkages in watershed initiatives.

Chapter Six summarizes case study findings, and Chapter Seven presents conclusions and recommendations.

Information for the three districts examined in this report was obtained in late 1998 and early 1999.

Chapter Two Types of Corps Watershed Studies

Corps watershed studies or initiatives can be undertaken for regulatory purposes or in response to non-regulatory purposes. Many watershed studies do not actually focus on a specific watershed. They may focus on a relatively large geographic area, (e.g., region), influenced and in response to non-Federal interests. As such the "watershed" study may be circumscribed by geopolitical rather than hydrologic boundaries, and also have differing anticipated purposes and goals. Whereas regulatory-driven watershed studies will focus on aquatic resources for the purpose of developing a plan that can be used to assist permit decision-making, non-regulatory initiatives may focus on other water resource-related topics and result in a variety of products including a plan that may identify recommended Corps actions. What is central to both studies is the concept of "watershed perspective" that "...activities be accomplished within the context of an understanding and appreciation of the impacts of those activities on other resources in the watershed." A watershed perspective considers, among other things, interconnectedness of water and land resources, the dynamic nature of the economy and the environment, and the need for an adaptive management strategy.

Regulatory-driven studies

Watershed or regional plans have been used by the Corps in its regulation of the aquatic environment. Two types of watershed or regional planning approaches that can produce plans for Corps use are the Advance Identification of Disposal Sites (ADIDs) provided for in the Section 404(b)(1) Guidelines and Special Area Management Plans (SAMPs), provided for in the 1980 amendments to the Coastal Zone Management Act.

SAMPs and ADIDs can focus on a specific watershed, a portion of a watershed, or extend over several watershed boundaries. However, often they are not circumscribed by physiographic boundaries, but instead focus on politically-defined regions (e.g., county or counties).

ADIDs. ADID's call for identification of areas generally considered to be either suitable or unsuitable as possible future sites for disposal of dredged or fill material. The ADID classification is to serve only as an advisory guide to regulators, resource planners, landowners, and development entities in planning future activities, not advanced permit approval or denial. The process is intended to add predictability to the Corps permitting process and a better forecast and accounting of cumulative impacts to the aquatic environment from multiple development projects in a geographic area. As such, ADIDs are mainly aquatic resources characterization (and information gathering), including mapping or identification of wetland functions and wetland categorization. This information can be used by local communities to help them better understand the functions and values of the aquatic resources, especially wetlands.

² Policy Guidance Letter No. 61 - Application of Watershed Perspective to Corps of Engineers Civil Works Programs and Activities.

The Section 404(b)(1) Guidelines provide for EPA and the Corps to conduct ADID efforts together. The U.S. Environmental Protection Agency (EPA) and the Corps can initiate ADIDs, on their own initiative or at the request of any other party. ADIDs can be [initiated] by a State or Tribe (in conjunction with the EPA) if they have assumed the Section 404 permitting program.

SAMPs. Special Area Management Plans are comprehensive plans intended to provide for natural resource protection and reasonable economic growth. The Corps of Engineers Regulatory Guidance Letter (RGL) 86-10 (extended by RGL 92-03 in 1992) states that the SAMP process—"...collaborative interagency planning within a geographic area of special sensitivity..." may be applied for regulatory purposes in non-coastal areas (in addition to its coastal application as specified in the Coastal Zone Management Act amendments of 1980). In addition, because SAMP's are very labor intensive, RGL 86-10 requires that the following ingredients be present before a district undertakes a SAMP; environmentally sensitive aquatic resources under strong development pressure, a local sponsor, full public involvement, and agreement for Corps use of general permits or abbreviated processing procedures at the SAMP's conclusion. The manner in which Corps regulatory staff participates in the development of these plans varies – as a lead or co-lead, an active participant, or advisory only. The Corps has conducted several SAMP studies. The Corps frequently contributes technical analysis to a SAMP study through participation on technical committees. RGL 86-10 also establishes a preference for SAMPs (in lieu of ADIDs) because SAMPs can be led by the Corps and result in definitive regulatory products (general permits) as well as alignment of state and local permit programs with those regulatory products.

SAMPs differ widely in their scope and may focus on other water resource management objectives, such as water quality improvement. SAMPs differ widely in size and do not necessarily correspond to entire hydrologic watersheds. As indicated earlier, they may focus on another type of geographic region (e.g., the Dade County SAMP, Florida and the Logan SAMP, Utah, which focused on a transportation corridor approximately 3/4 mile wide by 4 miles long).

Substantial resources, personnel, and time are typically required to complete these advanced planning mechanisms. As such, RGL 86-10 requires that Corps regulatory field elements pursue SAMPs (which may include an ADID as an element for determining functions and values) only if there is a willing local sponsor to reflect local needs and interests. The RGL also states that the effort should result in definitive products that can decrease regulatory workload and increase program efficiency.

Other types of watershed or regionally-based aquatic resources planning. The Corps may also build upon other Federal, state, and local advanced planning mechanisms or local watershed planning efforts. Such efforts may be *ad hoc* unilateral planning efforts led by local or regional organizations. The goal of the planning efforts may be to streamline the regulatory process and/or to conserve the highest quality wetlands and upland buffers. In other cases, there may be an explicitly-defined planning process, such as those that produce formal Wetland Conservation Plans conducted under a state or local statute. Corps regulators may participate in any of these initiatives to ensure that Section 404 is properly addressed and is not a road block in the future.

In addition to providing regulatory viewpoints, the Corps may provide varying levels of involvement such as technical wetland expertise. There are also cases where the Corps conducts or participates in regional or watershed Environmental Impact Statements (EISs) to satisfy National Environmental Policy Act requirements for permit decision making in watersheds with expected extensive cumulative impacts in fast urbanizing regions. The Jacksonville District has initiated two watershed EIS's, both of which involve close coordination between regulatory and planning elements and are related to the South Florida Ecosystem Restoration effort.

EISs may also be prepared for implementation of SAMPs. A recent Memorandum from the Director of Civil Works directs Corps regulators to manage preparation of EIS's and other such studies if they are for regulatory purposes.³

The Corps regulatory program may combine efforts with, or participate in other Corps Civil Works program initiatives that involve water resources development or management within a watershed or regional context (e.g., flood control, ecosystem restoration, and dredged material placement planning studies). An example of a large-scale comprehensive study that involves Corps Civil Works Planning and Regulatory Programs is the "South Florida Comprehensive Conservation, Permitting, and Mitigation Strategy for Wetlands and Other Critical Habitats" being conducted by the South Florida Ecosystem Restoration Task Force (co-managed by the U.S. Department of the Interior and the Corps). The intent is to develop a process and plan that coordinates regulatory and non-regulatory activities that affect the aquatic environment. Corps regulatory personnel participate in this consensus building process.

Regulatory Application of Plans. Once aquatic resource plans (e.g., SAMP's) are completed, the Corps responsibility in executing the plans is generally the issuance of regional general permits and programmatic general permits associated with the plan. General permits may be utilized to strategically address development activities in "approved" areas consistent with state and local approvals. The Corps may also issue a programmatic general permit to a Federal, state, or local entity that, through its licensing procedures, provides for public involvement and appropriate protection of aquatic functions and values. Corps Regulatory Headquarters emphasizes cooperation with any local planning effort that provides protection of the aquatic environment through the issuance of general permits and identification of mitigation areas.

Corps Civil Works Planning and Operation Initiatives

The majority of Corps planning watershed initiatives are managed out of the Civil Works Program, funded through the General Investigations budget and have been established through study specific authorization or standing authorities. Most planning watershed studies undertaken

³ Memorandum from the Director of Civil Works, dated 17 December 1997, "Guidance on Environmental Impact Statement Preparation, Corps Regulatory Program" directs the Corps Regulatory Program to utilize "third party contractors" as the primary method to prepare project-specific EISs. The Memorandum also directs the Regulatory Program EISs to be managed in and primarily reviewed by the Regulatory Branch. Further:

[&]quot;The Regulatory Branch will only contract out work to other Corps elements, other Federal agencies, or private consultants, when additional expertise beyond that available in the Regulatory Branch is necessary or where it makes good business sense for the Regulatory Program."

to date are the result of study-specific authorizations. These studies are authorized by House or Senate Committee Resolutions or Federal statutes such as the Water Resources Development Act. These studies usually cover a wide variety of analyses in technical areas (such as economic, engineering, and ecological studies) to investigate, characterize, evaluate, compare, and recommend actions for the management of the water resources identified in the study authorization language.

Individually authorized studies are accomplished in two planning phases. These studies follow the framework identified in the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (hereafter referred to as the Principles and Guidelines (March 10, 1983) which was initially developed pursuant to the Water Resources Planning Act, as amended (42 U.S.C. 1962a-2). In addition to the Principles and Guidelines, these studies follow the guidance covered in the Planning Guidance Notebook (Environmental Regulation (ER) 1105-2-100).

The first planning phase is the reconnaissance phase. The Corps uses this phase to determine whether there is a federal interest in the study area and whether detailed feasibility-level investigations are warranted. The reconnaissance study is usually 100 percent Corps funded. The report, which describes the study approach, process, findings, and recommendations, is completed in 12 to 18 months from the initiation of the reconnaissance phase.

A study that continues into the feasibility phase will focus on investigating and recommending solutions to the water resources problems and opportunities identified in the reconnaissance report. The feasibility phase is usually cost-shared with a non-federal sponsor(s). The non-federal sponsor(s) is responsible for 50 percent of the total study costs. (Half of the non-federal sponsor's share of the study can be delivered as in-kind services). The feasibility phase is initiated with the signing of the Feasibility Cost-Sharing Agreement by all cost-share partners [Corps and non-federal sponsor(s)], and is typically accomplished in 18-36 months. A feasibility report is developed to describe the study goals and objectives, the approach, the planning process, and the recommendations.

Comprehensive watershed planning studies are increasing in popularity due to the fact that leveraging program resources and combining watershed goals facilitates the development of a comprehensive plan for the water resources in the watershed. The multi-purpose, multiobjective nature of these watershed planning studies encourages the integration and heightened participation of several Corps functional elements and stakeholders. This holistic approach to investigating a watershed and determining the immediate and long-term actions that should be undertaken to support the integrity of the water resources, facilitate collaboration and involvement by a wider variety of interests and technical experts throughout the planning Since decisions on the future uses of the water resources in a watershed will be determined during the process, active participation is necessary for agencies/groups that have a stake in what is recommended for the study area. Regulatory and zoning agencies have not typically been active participants in the planning process of these initiatives, but in order to actualize the intended outcome of watershed initiatives, it is becoming evident that these groups need to be involved in the watershed planning study from its initiation. Currently, Corps Regulatory offices are participating in a handful of the ongoing watershed planning studies. The

level of involvement varies from occasional coordination to the completion of SAMPs as part of the study tasks.

The programmatic authorization of the Planning Assistance to the States authorized in the Water Resources Development Act of 1974, Section 22, offers an avenue for Corps planners to conduct watershed or regional studies. This authorization directs the Corps to use its expertise to provide technical support and expertise to assist States and Tribes manage water resources. Tribes or States must formally request the type of Corps expertise that it needs. Approval of the request is based on the capability of the Corps to satisfy the request, the availability of program funds, and the willingness of the non-Federal sponsorship in the cost-sharing.

Another group of watershed, or at least watershed-based, studies that are being accomplished with Corps involvement are those that are funded out of the Corps Operations and Maintenance budget. They are authorized through study-specific authorization and standing authorizations, such as the River and Harbor Act. These initiatives are usually 100 percent Corps funded and are initiated for the purpose of determining the need for improving the over-all quality and condition of the environment, based on public interest. Engineering or Operations Division typically manages these initiatives. Some examples of these initiatives are Master Plans (to identify recreational and economic opportunities on or adjacent to Corps projects), as well as Master Manuals and Operation Management Plans (to determine desirable modifications to the current structure or operating procedures of Corps projects).

The Operations/Engineering watershed studies usually involve a significant amount of public interaction and involvement since many of the potential opportunities relate to regional recreation and economics as well as ecosystem health. Few of these studies have regulatory tasks as part of the scope of work. These initiatives are investigating the water resources' condition and activities throughout the watershed. At this point, if any regulatory consultation or decision is necessary it is completed on a case by case basis.

Chapter Three Los Angeles District Case Study

Introduction

Aquatic resources regulation is a focus of several watershed or regional studies being conducted in or by Civil Works planning and regulatory offices in the Los Angeles District, most of which are in California. These efforts include a limited number of Special Area Management Plans (SAMPs) and Advanced Identification of Disposal Sites (ADIDs) and a region-specific Environmental Impact Statement (EIS). Two of the SAMPs are authorized as part of the Southern California Aquatic Resources Study, which is a Civil Works General Investigation Study. Presently, the Regulatory Branch is preparing the Project Study Plan⁴ (PSP) for these SAMPs. Two studies specifically addressing wetland regulatory needs have been conducted using Civil Working planning mechanisms, in this case, the Planning Assistance to the States (Section 22). Table 1 lists watershed studies that may have an aquatic resources regulatory component.

At least seven of the watershed or "watershed-like" studies appear to have links to some degree between planning and regulatory and are the focus of this chapter. Descriptions of each of these studies, their outputs or results to date, and characterization of planning and regulatory roles are summarized in Tables 5a-5h

Table 1. Los Angeles District watershed/regional studies

(Studies described in detail in this chapter are italicized)

Regulatory-Driven Studies

SAMPs:

San Marcos Creek, CA

Southern California Aquatic Resources Study Orange Co & San Diego Co., CA (General Investigations Study)

ADIDs:

Santa Margarita Watershed, CA

Verde Valley, AZ

Other Regulatory-based studies:

Santa Clara River EIS

Civil Works Planning Watershed Studies

Santa Margarita Watershed Management Study, CA
Aliso Creek Watershed Management Study, CA
San Juan Creek Watershed Management Study, CA
Newport Bay/San Diego Creek Watershed Study, CA
Los Angeles River Watershed Management Study, CA
Mojave River Watershed Management Study, CA
Imperial County Ecosystem Restoration, CA
Tijuana Valley Watershed Management Study, CA
Lower Las Vegas Wash Wetlands, NV
Gila River: Santa Cruz River Watershed Basin, Az

Others (Planning Assistance to States):

Floodplain Maintenance Plan for Murrieta Creek Floodplain Maintenance Plan for Mojave River

⁴ Also referred to as Project Management Plans (PMPs), ER 1105-2-100, Planning Guidance Notebook, 22 April 2000

Regulatory-driven Watershed Studies: General characteristics and study findings

As indicated earlier, information for the three districts examined in this report was obtained in late 1998 and early 1999.

- Three SAMPs and ADIDs have been completed to date, but no aquatic resource plans have been implemented.⁵
- Los Angeles District Planning Division (Water Resources Planning Sections and Environmental Branches) staff have generally not participated in SAMP and ADID studies. There was no planning staff involvement in an EIS recently prepared for the Santa Clara River to address cumulative impacts along a 33-mile reach of that river. The EIS was prepared by a private consultant for a major land company and overseen by the Regulatory branch (Table 5a).
- Planning staff conducted two Floodplain Maintenance Studies that were intended to primarily address flood control and associated maintenance issues such as State and Federal regulatory requirements. These studies were funded through the Planning Assistance to the States (Section 22) program. In both cases, regulatory staff suggested local public works agencies pursue this limited-planning venue. Both agencies desired some form of streamlined regulatory permitting as an end product. It should be noted that these studies have only encompassed limited portions of watersheds, i.e., short reaches of a watercourse.
- These two floodplain maintenance studies, cost-shared 50-50 with the non-Federal sponsor, were conducted by planning staff (i.e., Planning Section study managers). In the Mojave River Floodplain Maintenance Study, Planning staff managed the study; coordinated technical assistance to the sponsor, including updated hydrology and hydraulics (provided by Corps engineers) and biological analyses; facilitated issue resolution; and prepared the report for the sponsor (Table 5b). In the Murrieta Creek Study, planning staff provided managerial, analytical, and report preparation services (Table 5c).
- Regulatory staff input was not funded for the Mojave River Floodplain Maintenance Study, but was funded in the later Murrieta Creek Study. In the latter case, Regulatory provided oversight, including guidance on regulatory requirements and recommendations regarding maintaining channel capacity; in the former case, regulatory also assisted in a field survey. Regulatory staff indicates that their participation was funded in the Murrieta Creek Study based on proposed district policy (implemented in August 1997). This policy combines Environmental Resources Branch (ERB) procedures with Regulatory requirements for application to local protection project operation and maintenance in order to result in a single, more comprehensive set of procedures that will

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⁵See also IWR Report 97-PS-2 for a discussion of SAMP and ADID results. It should be noted that, nationally, few SAMPs and ADIDs have produced implementable plans sufficient to result in general permit procedures. In some instances where plans have not been completed, information has been produced that can contribute to regulatory decisions.

increase district efficiency and eliminate conflicting requirements frequently placed on a non-Federal sponsor..⁶

- Both studies have produced a Floodplain Maintenance Plan and are expected to result in regulatory products. For the Mojave River plan, the Corps is currently awaiting a US Fish and Wildlife Service Biological Opinion and State 401 water quality certification before issuing a permit. Although the intent was to issue a regional general permit, the Corps may issue an individual permit and then utilize the new nationwide permit for flood control maintenance. When the Draft Murrieta Creek plan is finalized, the county agency will apply for an individual permit. In this case, there will be no general permit because the impacts are not minimal.
- One of the Civil Works General Investigation Studies is a regulatory-oriented aquatic resources study—the Southern California Aquatic Resources Study (Table 5d). The purpose of the study is to prepare SAMPs for selected regions in Orange (two SAMPs) and San Diego Counties (one SAMP covering two study areas). Presently, the Regulatory Branch is scoping the SAMP study for both counties (scoping cost estimate \$200,000), although to date, funds have only been appropriated for the Orange County SAMPs (\$300,000). The main study tasks will be a landscape-level functional assessment and an alternatives analysis. There is much interest in San Diego County for a similar effort. The Regulatory Branch will manage the funded studies (Orange County). Planning Division may provide support as necessary, e.g., conducting cultural resources surveys, and will also serve in advisory role.

Civil Works Planning Studies: General characteristics and study Findings

- The initial wave of Los Angeles District Civil Works Planning Watershed appear to include aquatic resources regulatory objectives. While such issues may not be the primary issues driving non-Federal sponsor interest, these entities often desire riparian zone or floodplain management plans as a study product. As part of such plans, streamlined permitting processes and mitigation strategies are typically desired. These studies are managed by personnel in the Plan Formulation Branch (in Planning Division).
- Some Project Study Plans (PSPs) developed during the Reconnaissance Phase call for identification and ranking of off-site mitigation opportunities (including mitigation banks), whether to facilitate a streamlined permitting process or to achieve regional ecosystem management and restoration objectives.

⁶ Proposed CESPL-PD-R Office Memorandum 200-1-1 dated 1 August 1997, Combined Procedures (Construction plus Operation and Maintenance) for Complying with Regulatory Requirements for Local Protection Projects. The policy calls for the Regulatory Branch to (during planning and implementation of local protection projects):

[&]quot;forgo its detailed O&M evaluation during a late stage of project construction to instead guide and review ERBs evaluation from the earliest planing phases, in part by participating in reconnaissance and feasibility studies. The Regulatory Branch will retain control of the entire regulatory process; ERB will be the organization to gather and analyze environmental information and prepare documents for decision-makers."

- Non-Federal sponsors, e.g., public works agencies, frequently identify channel maintenance needs, and thus permitting, as important issues. Planning study managers expect that the watershed studies will: (1) result in "spinoff" feasibility studies such as ecosystem restoration, flood control, or other implementation Studies; (2) recommend preparation of SAMPs, and (3) produce environmental evaluations (e.g., functional assessments) that may serve to assist regulators in their permit decision-making.
- Regulatory Branch staff participates in the Civil Works watershed studies, although participation and roles are variable. Regulatory roles in four Civil Works watershed studies were examined; one study is in the reconnaissance phase (Table 5e), the other three in the feasibility phase (Tables 5f-h).
- Regulatory staff has participated or will participate in the reconnaissance phase in three of the four studies.⁷ They are usually involved in preparation (and cost estimation) of the PSP and identification of aquatic resources assessments to be conducted during the Feasibility Phase. Generally their participation in the reconnaissance studies has not been funded, because of limited funds.⁸ However, in the ongoing Newport Bay/San Diego Creek Watershed Reconnaissance Study, the Regulatory Branch is funded to participate in study team meetings and to review reports (Table 5e).
- Regulatory contributions to the feasibility phase of two Civil Works watershed studies are specifically budgeted as per the PSPs. Interestingly, during the development of the PSP, District Programs staff apparently questioned why the Regulatory Branch was involved, since there is no budget code number for Regulatory. "Account 22" was employed, which is used for "Other." In the San Juan Creek Watershed Management Study, \$70,000 was budgeted to conduct a Hydrogeomorphic (HGM) functional assessment (since changed to be an HGM-based landscape-level aquatic resources functional assessment) and spatial analysis of resources, land use, and cumulative impacts, including mapping of wetland permit activity (Table 5f). The Planning Division's Environmental Branch will conduct the spatial analysis and assist in the functional assessment, which will be conducted by contract. Regulatory staff will provide oversight for the assessment and provide other assistance as needed; they will be funded for this assistance. For the Aliso Creek Watershed Management Study, the Regulatory Branch is being funded \$12,000 to provide a detailed HGM functional assessment of the riverine system (Table 5g). Regulatory staff is viewed as part of the study teams especially for preparation of the main report and a regulatory appendix. The fact that local interests regard regulators as part of the study team was underscored in one watershed study where sponsors and study participants have expressed concern about the

⁷ In one study in which Regulatory staff has not been involved to date, planning staff expect the Regulatory Branch to become a participant. The study PSP identified regulatory products, e.g., identifying (for channel maintenance needs):

[&]quot;areas of potential mitigation banking and ecosystem restoration that could potentially qualify as mitigation for a regional 404 permit and/or Letters of Permission."

⁸It should be noted that these Reconnaissance studies were conducted prior to the Office Memorandum 200-1-1 dated 1August 1997 mentioned earlier.

- apparent lack of regulatory staff involvement during early strategic meetings of the feasibility study.
- The HGM functional assessment (or HGM-like landscape-level functional assessments) being conducted as part of the San Juan Creek and Aliso Creek Watershed Studies will benefit the regulatory program in terms of information and experience that will aid future regulatory aquatic resource functional assessment. While the \$70,000 budgeted for the San Juan Creek Watershed Study to undertake a functional assessment is insufficient to complete the comprehensive landscape-level functional assessment at a resolution useful for Regulatory purposes, the remainder of the necessary funds will come from other resources, possibly the Southern California Aquatic Resources-Orange County SAMP mentioned earlier in this chapter.

District Views on Regulatory and Planning Linkages

- Corps Civil Works Watershed Study managers believe they have good relationships with the regulatory staff working on their studies, but would prefer an even more active regulatory participation in the watershed planning studies.
- Both Planning and Regulatory staffs and supervisors appear pleased with the process and results of the Floodplain Maintenance Plan efforts in which there were extensive planning and regulatory interactions.

Chapter Four Jacksonville District Case Study

Introduction

The Jacksonville District Regulatory Division has participated in one Special Area Management Plans (SAMPs), 7 Advance Identification of Disposal Sites (ADIDs) and several other studies that are intended to produce aquatic resources plans for regulatory purposes (see Table 2). The SAMP was completed in the early 1990's and produced a mitigation bank. Working with the U.S. Environmental Protection Agency, the District has initiated seven ADIDs since 1990, but only two have been completed. Recently, the District has embarked on two watershed Environmental Impact Statements (EISs), to both satisfy National Environmental Policy Act (NEPA) requirements for permit decision making and provide a standardized format for other watershed studies. The Regulatory Division is also participating in a cross-cutting Corps study effort--the South Florida Comprehensive Conservation, Permitting & Mitigation Strategy for Wetlands & Other Critical Habitats. Civil Works planning studies are also focusing on large-scale efforts, the most notable of which is the Central and Southern Florida Project Comprehensive Review Study (hereafter referred to as the "Restudy") which is serving as a cornerstone or launching pad for regulatory-oriented watershed-based studies.

The Jacksonville District has established an Ecosystem Restoration Section (ERS) to deal with planning studies on a watershed/regional-scale. The office also conducts Ecosystem Restoration Studies (Section 1135 studies and other non-regional projects). The ERS is located within the Plan Formulation Branch of the Planning Division. The Restudy provided the impetus for this reorganization. The Restudy was created to be an independent interdisciplinary, interagency team to work only on the Reconnaissance effort. This Section has since reverted, to some extent, to a more typical plan formulation section, although it still has an interdisciplinary team and interagency format.

Environmental planning study support is also located within the Environmental Branch. Branch staff contributes to the Ecosystem Restoration study efforts.

Descriptions of watershed or "watershed-like" studies that appear to have linkages between planning and regulatory, their outputs or results to date, and characterization of planning and regulatory roles are summarized in Tables 6a-6d.

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⁹ The Jacksonville District is one of only three Corps districts in which there is a Regulatory Division (the other two are Wilmington District and Rock Island District). All other Corps districts have Regulatory Branches.

Table 2. Jacksonville District watershed/regional studies

(Studies described in detail in this chapter are italicized)

Regulatory-Driven Studies Other Regulatory-driven Studies

SAMP: Lake Belt EIS, Dade County

Dade County Southwest Florida EIS, Lee & Collier Counties

ADIDs: So. Florida Comprehensive Conservation, Permitting & Mitigation St. Johns County

Strategy for Wetlands & Other Critical Habitats

Northeast Shark River Slough **Civil Works Planning Watershed Studies**

Central & Southern Florida Project Comprehensive Review Study

St. Johns River Florida Keys

Loxahatchee Slough

West Biscavne Bay

The Florida Keys

Rookery Bay

Broward County

Regulatory-driven watershed studies: General characteristics and findings

- ADIDs generally have not been successful. Few have been completed. None have resulted in a plan that a streamlined regulatory permitting process can be based, with the exception of several ADIDs that were completed in areas of relatively light permit demand. Aquatic resources plans and permitting programs have not been implemented. Problems have been encountered with: wetland functional assessment procedures; private lands access; the specter of regulatory taking; lack of EPA commitment; failure to consider sociological or economic conditions, differences in EPA Regulatory and Planning; and EPA contract monitoring. 10 Corps planning and environmental planning staffs have not participated in these efforts.
- The Regulatory Division has initiated two watershed EISs to satisfy NEPA requirements for permitting. The Regulatory Division also intended to use these efforts to develop a standardized format by which other watershed studies could be conducted. The EIS studies to date have: more Corps direction than in ADIDs; more thorough use of the NEPA process (than in ADIDs); more complete consideration of the broader public interest; incorporation of Section 7 consultation; and emphasis on alternatives from a watershed perspective. Problems with accomplishing the NEPA process for the purpose of a watershed study include: EIS costs and authority to do such a study; perceptions that development will be stopped; perceptions of the Federal government as "big brother"; "shelf life" and adaptability.
 - These studies were suggested by the Regulatory Division to regional and local entities in response to an expected deluge of permit applications for the two EIS study The study benefitted directly from support from the extra-regional Administration initiative--the South Florida Ecosystem Restoration Initiative. The

 10 John Hall, Chief, Jacksonville District Regulatory Division, 1998, "Jacksonville District Experiences in Watershed Planning." Presentation to the 56th Meeting of the Chief of Engineers Environmental Advisory Board, St. Paul, Minnesota, April 28. Also see footnote 2.

- support included setting up Issues Advisory Groups for the respective studies. The district engineer was a critical force behind initiation of the two EISs.
- Civil Works Planning Division efforts provided both financial and staff support. The Restudy funded the development of alternatives for the Lake Belt EIS in recognition that the study area was a prime water control area in the Planning study area (Table 6a). Environmental Branch staff are preparing the Lake Belt EIS which is funded by the Regulatory Division (and other regional agencies). Regulatory Division is managing and funding the preparation of South Southwest Florida EIS, with the exception of water quality studies funded by EPA (Table 6b). Planning staff is not providing direct support for this latter study. This is at least partially to be expected since Civil Works Planning Division does not have a strong presence to date in Southwest Florida (no ongoing studies, although at least one study authorization is expected).
- Both studies have employed water resources planning experts to facilitate an Alternatives Development Groups (ADG) for the development and evaluation of alternatives. This process was helped by an Issue Advisory Team established by the South Florida Ecosystem Working Group. The ADG developed multiple objective criteria (that is, issue-based) to evaluate alternatives and developed, evaluated, and compared alternatives. The Lake Belt ADG has developed preferred plans.
- Regulatory staff participate in the South Florida Comprehensive Conservation, Permitting and Mitigation Strategy (Table 6c). This is an effort to develop a system-wide, fifteen county strategy for wetland permitting, conservation, and mitigation. Products expected include a GIS, wetland functional assessment tools, and possibly, programmatic general permits. This effort is part of the Administration's South Florida Ecosystem Restoration Initiative.

Civil Works planning studies: General characteristics and findings

■ Just about any planning study in Florida has a potential requirement for regulatory interaction. The foremost example in the Jacksonville District is the Restudy. While regulatory personnel do not participate directly on the study team except on an episodic nature (Table 6d), there is close coordination. However, several regulators have transferred to Restudy. The Restudy directly affects the Regulatory program and has provided financial support for substudies in regulatory-driven watershed studies, e.g., the Lake Belt EIS Alternatives Development Group.

District Views on Regulatory and Planning Linkages

- Planning assistance to regulatory watershed efforts in some regions in Florida may be minimal due primarily to the lack of a strong planning presence in those regions where water resources issues are primarily the domain of the water management districts.
- Regulatory supervisors believe there are several potential EIS-type efforts similar to the Lake Belt and Southwest Florida EIS that might be initiated, especially as "spin offs" of

Civil Works planning studies. These might be pursued as specific study authorization in future Water Resources Development Acts. An example is a proposed feasibility study for flood control and environmental restoration in southwest Florida.

To foster better coordination, a team of Regulatory Division and Environmental Branch staff meets regularly to discuss environmental issues that go beyond the EISs. Environmental Branch, Plan Formulation Branch, and Regulatory Division supervisors believe there is a good interchange or coordination among staffs. The large-scale studies particularly are linked well.

Chapter Five Baltimore District Case Study

Introduction

The Baltimore District Regulatory Branch has participated in at least 7 Special Area Management Plans (SAMPs), 1 Advance Identification of Disposal Sites (ADID), and several other studies intended to produce aquatic resources plans (see Table 3). Many of these studies have focused on very small regions such as those defined by sewer service areas in rapidly urbanizing watersheds. The SAMP studies have produced plans upon which abbreviated permit procedures have been developed. These studies have also identified possible sites for mitigating aquatic resource impacts.

A Watershed Program has been formed in the Regulatory Branch as a part of its reorganization. The program leader will serve as the point of contact for all watershed-based activities and related issues that would involve the Regulatory Branch in the district. This program will be managed on parallel tracks to the permit, transportation, and enforcement programs. It is anticipated that this process will aid the identification of regulatory priorities throughout the District's Regulatory boundaries and will encourage the progression to a more streamlined and efficient regulatory program.

The Baltimore District Civil Works Planning Division is currently participating in several watershed-based General Investigation studies. One of these planning studies, the Western Branch, Patuxent River, Maryland Feasibility Study, was initially associated with the parallel conduct of a SAMP by regulatory staff. It was originally intended that the aquatic resources information gathered in the study area would be useful for both the Civil Works planning feasibility study and the regulatory SAMP.

The Baltimore District Planning Division is organized by the watersheds within their Civil Works boundaries, which differs from the political boundaries used to define the organization of the Regulatory Branch. The intention of using watersheds to organize the Civil Works planning program is to assure that staff members with institutional knowledge on many of the activities occurring in the watershed are assigned to new studies in the area. This promotes consistency within each watershed, and it also allows for long-term relationships to develop among the Corps employees and the different interests in the watershed.

Descriptions of watershed or "watershed-like" studies that appear to have links between planning and regulatory, their outputs or results to date, and characterization of planning and regulatory roles are summarized in Tables 7a-7f.

Table 3. Baltimore District watershed/regional studies

(Studies described in detail in this chapter are italicized)

Regulatory-Driven Studies

SAMPs:

Swan Creek Watershed Stream Corridor Inventory Winters Run Stream Corridor Inventory, MD Bynum Run Stream Corridor Inventory, MD Back River Neck SAMP, MD

Forge Acres Sewer SAMP & NEPA/404 Documentation, MD Middle River Neck SAMP, MD

Vincent Farms SAMP, MD

Honey Go Run Sewers SAMP & NEPA/404 Documentation, MD

Mayo Peninsula SAMP, MD

Western Branch, Patuxent River SAMP, MD (also General Investigations Planning Study)

ADID:

Red Run, MD

Civil Works Planning Watershed Studies

Baltimore Metropolitan Water Resources (Deep Run/Tiber-Hudson), MD Havre De Grace, MD Western Branch, Patuxent River, MD Anacostia River & Tributaries, MD & DC Prince William County Watershed, VA Lower Potomac Basin, VA & MD Upper North Branch Potomac River

Watershed, WV & MD

Regulatory-driven watershed studies: General characteristics and findings

- Several SAMPs have been initiated over the past 5 years. Few plans from these SAMP areas have led to advanced permit decisions in relation to the placement of public sewer The inability to implement more of the aquatic resources plans and specific permitting processes is attributed to insufficient manpower, inadequate budget and lack of time to properly address the issues and needs.
- The Regulatory Branch has joined with other federal agencies and non-federal entities in cooperative efforts to evaluate the condition of aquatic resources within a designated watershed area in order to identify and prioritize restoration opportunities (e.g. Swan Creek Stream Corridor Inventory). These opportunities range from stream restoration to wetland creation. The list of priority restoration opportunities are used by all cooperating partners to determine what projects they should focus on for their respective programs as well as to provide others with potential mitigation activities for unavoidable impacts.
- Completed stream corridor inventories are being used by the local interest (Harford County) and other Federal and State resource agencies in prioritizing program efforts and identifying potential mitigation opportunities. The information collected through the inventories have been helpful for accomplishing alternatives analyses for permit decisions and for identifying potential projects to meet state NPDES requirements. Corps regulatory staff is using the information obtained through the field analysis for establishing baseline conditions and reviewing permits with a better understanding of the conditions of the watershed.
- Some SAMPs initiated by the Regulatory Branch has been useful in supporting other regulatory support initiatives. The information gathered during the Western Branch, Patuxent River SAMP was intended to be applied for the development of Hydrogeomorphic functional assessment guidelines for Maryland by establishing appropriate reference sites and conditions.

- The Corps regulatory involvement in these initiatives has been funded through the Regulatory Branch. Since all of these efforts were completed as partnerships, many of the resources and staffing needs were supplied by the partners and participating agencies.
- Baltimore District planning staff have not participated in these efforts.

Civil Works planning studies: General characteristics and findings

- Regulatory Branch has been involved in Planning Division General Investigation studies on several levels.
- The Regulatory Branch is being brought into different types of planning studies during the reconnaissance phase. The regulators provide information on current conditions of the natural environment within the study area, assist in the development of potential problems and opportunities, and provide contact information on individuals/groups in the study area that may have additional insights into the particular subject or have a vested interest in the water and related land resources being studied.
- Regulators participate on study teams to provide other team members with information on the natural environment of the particular watershed area, and to provide insight into the water resources problems and possible solutions. Since consultation with the public and other agencies on possible Section 404 or Section 10 activities is part of the preapplication process, which is a regulatory responsibility, no funding is provided to the Regulatory Branch.
- The Regulatory Branch has been involved in Planning Studies to provide input on whether certain proposed alternatives are consistent with the types of projects that are permitted for the private sector. This coordination assures that the Corps is considering alternatives that are acceptable and selects projects that are consistent with the types of restoration projects implemented by the private sector.
- The most extensive level of involvement by the Regulatory Branch in planning studies, is the active participation in plan formulation for the Western Branch, Patuxent River feasibility study. Regulatory staff established a parallel SAMP effort for the ecosystem restoration watershed planning study for the Western Branch of the Patuxent River. The regulatory staff provided a scope of work, attached as an appendix to the Project Study Plan, and planning funds were allocated for a portion of the regulatory effort. The regulatory staff identified the wetlands in the priority sub-watersheds of the Western Branch and the potential wetland restoration/creation sites for the planning study.

District Views on Regulatory and Planning Linkages

Both offices understand the benefits of collaborating on similar watershed efforts.
 Planning Division can benefit from regulatory staff experience and knowledge of the natural environment, and the Regulatory Branch can benefit from the wide range of

disciplines in planning as well as learn from the planning process (e.g., evaluation frameworks, public involvement).

- Regulatory understands that its program is focused on a relatively limited set of water resources issues and that partnering in watershed initiatives with planning staff may allow regulators to be involved in more comprehensive range of water resources planning issues. It also exposes regulators to partners and stakeholders, which they may not typically coordinate with through the permitting program.
- Planning recognizes its responsibilities for environmental compliance and that inviting regulatory staff to be involved in the plan formulation process helps assure consistency with regulatory requirements.
- Both offices are using Geographic Information Systems (GIS) to collect information on watersheds. The information is available for each other to use but the systems are not yet compatible. Realizing the usefulness of this type of information, efforts are under way to develop a way to allow the data to be readily transferred between offices.
- Regulatory Branch staff can bring new, non-traditional sponsors into planning watershed studies, based on their network of associations. This partnering allows collaboration on SAMP activities and also promotes involvement by a diverse group of partners in comprehensive planning watershed studies.

Chapter Six Discussion

Previous chapters discussed the various types of watershed or regionally-based aquatic resources planning studies in three Corps districts and the linkages between regulatory and planning programs of the Corps in those watershed or "watershed-like" studies. These studies have been initiated through different mechanisms or Corps programmatic authorities. They have been initiated using various Civil Works Study Authorities or in response specifically to Corps regulatory authority. Planning and regulatory relationships and contributions have varied also.

The types and amount of information utilized by Corps planners in watershed studies should be expected to overlap the information utilized in preparing aquatic resources plans (e.g., Special Area Management Plans (SAMPs)) developed in response to regulatory needs. The overlap, or intersection, of the information may be small in terms of the information used by each of the types of studies. However, the same factors should be expected to affect both analyses and study products.

Regulators can contribute to watershed studies conducted by Corps planners. For example, Corps studies identify "without project" conditions. Corps regulators can contribute valuable information to Corps planners about current conditions, assumptions about the study area or what the watershed might look like in the future, the likelihood of development, and potential development affects on permitting and effects of permitting. Regulators can provide permitting history information that could assist in the determination of future conditions, without and with project.

Corps water resources and environmental planners can make any of several potential contributions to development of aquatic resources plans used by the Corps regulatory program in permit decision making. The specific mix and level of contributions will vary.

Potential planner/environmental planner contributions to aquatic resources planning:

- study management
- study scoping
- plan formulation (alternative development, evaluation, and comparison)
- public involvement
- staff support for aquatic resources inventory and assessment
- economic evaluation expertise
- database construction and/or maintenance (e.g., Geographic Information Systems (GIS))
- aquatic resources plan development

The need to consider potential Corps planner/environmental planner contributions is underscored by the many SAMP efforts to date that have not produced aquatic resources plans upon which regulatory programs can base a streamlined permitting process. Collaboration between regulatory and planning functions of the Corps also increases efficiency and enhances the "one door to the Corps" concept.

Watershed studies initiated using Civil Works Non-Regulatory Study authorities

1. Civil Works General Investigation (GI) Studies: Watershed Studies. Watershed studies can be initiated using traditional Civil Works GI authorization and funding. Many of these watershed studies include substantial aquatic resources issues that concern the non-Federal sponsor or other stakeholders. The two-phase Civil Works planning studies have the potential to yield spinoff efforts such as aquatic resources plans. Such a plan might be prepared as a direct product of the Corps feasibility study or the feasibility study might recommend a subsequent effort such as a SAMP study to be conducted. In essence, this latter case would represent a two-stage or "spinoff" model in which the Feasibility study could, to some extent, scope the spinoff SAMP study and develop environmental databases and tools (e.g., GIS, Hydrogeomorphic functional assessment) to be applied during the spinoff study. Both the Los Angeles and Baltimore Districts are applying this approach.

It is important that regulatory staff participate in both the reconnaissance and feasibility study phases, not only to provide regulatory oversight to the study, but also to identify opportunities to develop information and products applicable to the regulatory program. In several Civil Works watershed studies, Corps regulators are providing aquatic resources assessments (and training) for the study in addition to general regulatory input.

Potential Products:

Feasibility study produces aquatic resources plan/information that can be utilized by Corps regulators in subsequent permitting or for developing a programmatic general permit.

OR:

Feasibility recommends "spinoff SAMP" study and process by which it will be initiated, funded, and conducted; information gathered during feasibility study will be beneficial to SAMP study.

2. Civil Works GI Studies: SAMPs. Congressional study authorization (a traditional Civil Works planning authorization and funding mechanism) has been used to initiate a specific SAMP as a General Investigations study. The Los Angeles District is utilizing this approach.

Potential Product:

Study produces SAMP that can be utilized by Corps regulators in subsequent permitting or for developing a programmatic general permit.

3. Civil Works Planning Studies: Planning Assistance to the States. A Civil Works planning authority known as Section 22 (Water Resources Development Act 1974 as amended) or Planning Assistance to the States has been used to fund and conduct studies that focus on subregional and small watershed areas. In the Los Angeles District, Section 22 funds have been used to prepare Floodplain Maintenance Plans for portions of two streams. In both cases, regulatory staff suggested to the non-Federal sponsor that this authority be utilized when it appeared that a more comprehensive analysis was warranted for permitting floodplain maintenance activities. Corps planners conducted both studies. The Regulatory Branch was

funded in turn by planners to prepare a portion of the study. There appears to be no reason why Section 22 studies cannot be utilized for development of more extensive watershed and aquatic resource plans. The prime limitation to its application is the maximum funding limit (cap) for studies in each state annually—\$500,000 (and may not exceed \$10 million per year for the nation).

Assistance is given on the basis of state requests and availability of Corps expertise rather than through Congressional study authorization. The studies are cost-shared.

Potential Product:

Study produces aquatic resources plan/information that can be utilized by Corps regulators in subsequent permit application or for developing a programmatic general permit.

Watershed studies initiated as part of Corps regulatory authority and responsibilities

4. Watershed-or regionally-based Environmental Impact Studies. This approach is a direct attempt to satisfy National Environmental Policy Act requirements for permit decision making in watersheds with expected extensive cumulative impacts in rapidly urbanizing regions. Data gathering and synthesis is done through third party contracts and interagency teams. Funding is variable, although in the Jacksonville District, the Corps Regulatory Division has provided a substantial amount of funding. This approach may require the backing of a larger-scale interagency group to provide the necessary impetus to achieve the necessary, non-Federal acceptance and support (especially if local interests are initially recalcitrant). Corps planning/environmental planning support varies. In one study, environmental planners are preparing the Environmental Impact Statement (EIS). In the other EIS, regulators are utilizing a water resources planning consultant to facilitate alternatives development and analysis in terms of the degree to which the alternatives achieve different objectives, including economic sustainability.

Potential Product:

Study produces an EIS with aquatic resources plans and/or information that can be utilized by Corps regulators in subsequent permit decisions or in support of a programmatic general permit.

5. Stream-corridor inventories. These initiatives provide Corps regulators with an opportunity to investigate stream conditions on a watershed-basis. Cooperation among Federal, state, and local resource agencies and the interested public has encouraged the development of professional relationships and has allowed for individuals to share their knowledge of the resources in the watershed. The data collected from the field assessments are useful for identifying problem areas and potential restoration opportunities within the watershed.

To date, Planning Division has not been involved in these assessments. If a Civil Works watershed study were initiated in one of the assessment areas, the information gathered during

the assessment would be useful for planners to establish existing conditions and to preliminarily determine the water resources problems within the study area.

Potential Product:

Inventories produce field data that can be utilized by Corps regulators in subsequent permit applications within the study area and provide a prioritization of known restoration opportunities within the stream corridor.

<u>Problems associated with participation of regulators and planners in watershed studies</u>

Among issues identified by planners and regulators that are causing complications in collaborative watershed studies:

Differing milestone/funding venues. Since regulatory and planning units operate under different program and performance requirements and standards, it is common for funding and scheduling conflicts to arise throughout collaborative study efforts. Regulatory staff must juggle the processing of incoming permit applications, the coordination with interested parties on pre-application activities, and the development of regional and programmatic general permits through watershed studies such as SAMPs. The evaluation and issuance of activity specific permits takes precedence over any programmatic watershed initiative, and therefore the completion of the watershed studies are delayed and many times, postponed to an unspecified future date.

Planning staff must abide by the milestones set for the particular Civil Works studies. These milestones are usually linked to upward reporting requirements and typically mark decision-making points within the planning process. In order to continue through the process, the data collection and analyses need to be completed within the time frame allotted. This time restriction and inflexibility often conflicts with the priorities designated for the regulatory staff that may be working on the study.

Regulatory staff availability. Limited regulatory staff availability affects the conduct of watershed studies. Some Corps watershed planning study managers would prefer a more active regulatory participation in those watershed studies conducted by Corps planners. Indeed, changes in availability of Corps regulators to participate in a few watershed studies, as had been previously planned (e.g., as per Project Study Plans), have forced changes in the conduct of those studies.

Cost estimation. Regulators have noted their errors in estimating costs for their contributions to the Corps Planning Watershed Studies. The cost underestimates, (e.g., of assessing aquatic resources functions), prepared for the Project Study Plan, have resulted in changes in study conduct and output once studies are underway.

Table 4 summarizes the study types, source of funding, study lead, regulatory funding (yes/no), and intended regulatory product.

Table 4. Summary of study types, funding, leadership, regulatory funding and product.

Study title	Study type	Funding	Corps lead: Plan/Reg	Regulatory Funded?*	Regulatory Product
Santa Clara EIS, CA	EIS	local	Regulatory	No	General permit (GP) expected
Mojave River, CA Floodplain Maintenance Plan	Sec. 22 Plan. Asst. States	50% state/ 50% Fed	Planning	no	Individual (IP)& Nationwide Permits expected
Murrieta Creek, CA Floodplain Maintenance Plan	Sec. 22 Plan. Asst States	50% state/ 50% Fed	Planning	yes	Programmatic IP expected
Southern California Aquatic Resources Study	Congressionally authorized SAMP GI Study	Federal	Regulatory	yes	SAMP initially
Newport Bay/San Diego Creek Watershed Study, CA	Civil Works (CW) Recon Study	Federal	Planning	yes	Information useful for regulatory program
San Juan Creek Watershed Management, CA	CW Feasibility Study	Fed/ non-Fed cost share	Planning	yes	Information useful for regulatory program
Aliso Creek Watershed Management, CA	CW Feasibility Study	Fed/ non-Fed cost share	Planning	yes	Information useful for regulatory program
Gila River: Santa Cruz River Watershed, AZ	CW Feasibility Study	Fed/ non-Fed cost share	Planning	yes	Information useful for regulatory program
Lake Belt EIS, FL	EIS	Mix including Planning Funds	Regulatory	no	EIS to serve as IP template
Southwest Florida EIS, FL	EIS	Corps Regul./EPA	Regulatory	no	Information; possible GPs
So. FL Comp. Conser., Perm. & Mitig.Stategy for Wetlands & Other Critical Hab.	Interagency collaboration		Regulatory & planning participate	no	Information (e.g., GIS) useful for regulatory program
Central & So Florida Project Comprehensive Review Study	CW Feasibility Study	Fed/ non-Fed cost share	Planning	no	No specific regulatory products. Study helped spawn specific regulatory-driven studies (EISs)
Anacostia River, MD	CW Feasibility Study	Fed/ non-Fed cost share	Planning	no	None
Western Branch, Patuxent River, MD	CW Feasibility Study	Fed/ non-Fed cost share	Planning	yes	Initially SAMP to be prepared coincident with study; info. for use in regulatory program
Baltimore Metro 2, MD	CW Feasibility Study	Fed/ non-Fed cost share	Planning	no	Info. useful to regulators; pilot regulatory-planning partnership
West. Branch, Patuxent River SAMP, MD	SAMP	To be determined	?	?	SAMP
Back River Neck & others SAMP's, MD	SAMP	Corps regul./ non-Fed	Regulatory	no	GP expected
Swan Creek (& others) Stream Corridor Inventories, MD	Stream corridor inventory	Local	Regulatory	no	Info. useful to regulatory decision, identify possible mitigation sites

^{*} Funds other than salaries of regulators working on these studies.

Chapter Seven Conclusions and Recommendations

Conclusions from review of three districts

- ➤ Planning and Regulatory staffs are pursuing varying types of partnering opportunities and study funding avenues.
- ➤ Corps staff recognizes benefits of collaboration for the effectiveness of their respective programs.
- Corps staff is learning to varying degrees about each other's programs and activities.
- ➤ There still appear to be numerous misconceptions and mysteries between planners and regulators regarding the different programs.
- ➤ Incompatible funding and schedules seem to be a major factor thwarting success of these partnerships.
- A model framework and schedule (i.e., template) for conducting Special Area Management Plans (SAMPs) does not currently exist.
- Regulatory and Planning staffs are attempting to share data and information (e.g., via Geographic Information System (GIS) development).
- Regulatory staff need to be dedicated to Planning studies if the regulatory tasks listed in the Civil Works Feasibility Study Project Study Plan (PSP) are agreed upon.
- ➤ Planning staff is not typically involved in Regulatory-originated watershed efforts since there usually is no funding available for their involvement.
- Non-Federal sponsors and the public want the Corps (e.g., planners and regulators) to collaborate on their water resources activities within watershed areas.

Recommendations

The following recommendations are provided to assist completion of watershed studies and aquatic resources plans that support both the Corps regulatory and planning program missions.

Recommendations for Corps Headquarters:

- Establish principles for completing SAMPs and promoting Regulatory staff interaction on watershed initiatives, including planning watershed studies. Develop a sample framework/study plan to provide a field example.
- Encourage district staff to collaborate, i.e., prioritize resource allocations strategically.

Recommendations for Districts

- Conduct a workshop with both regulators and planners to identify types of information that their programs use and need in their respective analyses. This would be one step to identifying how planners and regulators might contribute to the other's studies or projects.
- > Designate program/study liaisons in both Regulatory and Planning.
- ➤ Include Regulatory Coordination as a standard sub-account on all Project Study Plans.
- ➤ Continue to share information and ideas, making our products more desirable to a wider variety of the public.
- Encourage the joint development of databases that are relevant to both programs (e.g. Geographic Information Systems)
- ➤ Encourage job-exchange programs between Planning and Regulatory
- ➤ Provide cross-training opportunities (e.g., Regulatory I and II and Planning, Principles, and Procedures prospect courses) at the district level.

Table 5a. Santa Clara EIS, California, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	EIS for regulatory purposes; a joint EIS/EIR is being prepared at urging of California Dept Fish & Game; regulatory staff suggested that the local sponsor pursue this venue Study purpose: determine potential adverse environmental effects on the Santa Clara River on a cumulative basis for the Valencia Company's proposal to stabilize 33 miles of river bank.; a Natural River Management Plan forms the core of the proposal Study sponsored & funded by the Valencia Company	
Description of study, area, issues, etc.	Initiated circa FY 95 Floodplain maintenance (i.e., riverbank stabilization) study Study area: approx. 33 miles of river bank on Santa Clara River main stem from confluence with Castaic Creek upstream to City of Santa Clarita including lowermost portions of three tributaries; study area essentially is proposed development areas for next 20 years Issues: 3 endangered species; river esthetics; property rights; environmental concerns	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	A private environmental consultant prepared the EIS Regulatory staff provided oversight and DEIS/EIR and FEIS/EIR review to ensure compliance with NEPA and Section 404(b)(1) Guidelines, and to address the public interest review No planning staff involvement	
Expected products (especially with respect to regulatory needs):	FEIS with recommended plana Natural River Management Plan that provides riverbank stabilization and maintenance guidelines. Plan implementation will require a general permit. The sponsor, the LA County Dept Public Works, and others are expected to use the permit.	
Outputs/results to date:	FEIS/EIR released on 4 September 1998; ROD & general permit are yet to be prepared	

Table 5b. Floodplain Maintenance Plan for Mojave River, California, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Assistance to States Study (Section 22, WRDA 1974); regulatory staff suggested that the local sponsor pursues this planning venue. Purpose of study is to develop a floodplain maintenance that balances flood control needs with environmental and other water resources concerns. Sponsors: San Bernardino County Transportation/Flood Control District	
Description of study, area, issues, etc.	Initiated FY 93; \$50,000 Federal Initial study focused on interim (2 mile) reach of river with most critical flood control need; study area was expanded to 65 river miles; focus was on floodplain maintenance. Critical river reaches were identified for potential flood hazards and habitat types ranked according to agreed-upon relative value; flood control measures were designed to avoid most sensitive habitat areas. Issues: flood protection, habitat protection and enhancement, streamlined permitting for aquatic resources, need for revised hydrology.	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management, coordinating technical assistance to the sponsorincluding updated hydrology and biological studies, facilitating issue resolutionand report preparation. Regulatory participation not funded by planning. Regulatory provided guidance with regard to 404(b)(1), alternatives analysis, impact assessment, and mitigation; regulatory also assisted in field survey and report review.	
Expected products (especially with respect to regulatory needs):	Floodplain Maintenance Plan that provides maintenance guidelines and basis for sponsor's Section 404 permit application.	
Outputs/results to date:	Floodplain Maintenance Plan. Corps currently awaiting USF&WS Biological Opinion and State 401 certification before issuing a permit. Although, the original intent was to issue a regional general permit, it is also possible the Corps may issue an IP and then utilize the new nationwide 31 for flood control maintenance.	

Table 5c. Floodplain Maintenance Plan for Murrieta Creek, California, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Assistance to States Study (Section 22, WRDA 1974); regulatory staff suggested that the local sponsor pursues this planning venue. Purpose of study is to develop a permittable floodplain maintenance plan balancing flood control needs with environmental and other water resources concerns Sponsors: Riverside County Flood Control and Water Conservation District	
Description of study, area, issues, etc.	Initiated FY 97; \$105,000 Federal Study area and description of study: Floodplain maintenance study for Murrieta Creek in southwestern Riverside County; watershed is 220 square miles and Murrieta Creek is approx 13.5 miles in length; the study area is about 7.9 miles (6 reaches) in the vicinity of the city of Murrieta. Alternatives analyzed based on 2 criteria: channel flood control capacity (and allowable reduction) and maintenance of vegetation within the channel (width of dedicated vegetation corridor and managed corridor). Related study: Santa Margarita Watershed Expedited Reconnaissance which identified local interest for flood control only on Murrieta Creek Issues: flood protection, habitat protection and enhancement, streamlined permitting for aquatic resources	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning staff managed the study. Regulatory staff funded by planning (\$15,000 budgeted and \$10,000 expended) and involved starting with the Reconnaissance phase; regulatory staff provided oversight and prepared regulatory analysis for the report.	
Expected products (especially with respect to regulatory needs)	Floodplain Maintenance Plan providing maintenance guidelines. Plan implementation requires a programmatic individual Section 404 permit.	
Outputs/results to date:	Final Draft Floodplain Maintenance Plan sent to sponsor for final review and comment September 1998. Upon receipt of comments, the report will be finalized and transmitted to the sponsor for use in permit application.	

Table 5d. Southern California Aquatic Resources Study, Los Angeles District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works General Investigations study authority: House Public Works Committee May 1964 (Orange County) Study purpose: prepare SAMP to provide comprehensive plan for aquatic resources; local interests desire streamlined permitting Sponsors: Orange County Public Facilities and Resource Dept (Irvine Company is a major proponent for the study)
Description of study, area, issues, etc.	Initiated FY 98; \$500,000 for Orange County SAMPs Study area and description of study: SAMPs will be conducted for selected regions in Orange and San Diego Counties, and in coordination with California Natural Community Conservation Plans (NCCPs) for Central and Coastal Subregions of Orange County (approved); the Southern Subregion NCC (under study); and the San Diego Multi-Species Conservation Plan (approved). Tentatively 2 SAMPs will be conducted in Orange County and one in San Diego County (two watershed study areas). The Orange County SAMPs are located in 2 planning subregions: central-coastal subregion (including Cities of Irvine, Newport Beach, Costa Mesa, Laguna Beach and portions of unincorporated Orange County) and southern subregion (approx. 130,000 acres, including, Cities of San Clemente, San Juan Capistrano, and Mission Viejo, and portions of incorporated Orange County). Preparation of the Project Study Plan (\$200,000 is available) focuses upon both counties, although the remainder of the funds will be used for the Orange County effort as per Congressional Appropriations language. Related Federal and state agency activities/studies: Newport Bay/San Diego Creek Watershed Reconnaissance Study; approved and proposed Natural Community Conservation Plans & Multi-Species Habitat Conservation Plans Issues: streamlined permitting for aquatic resources; protection of natural resources; impacts of urbanization
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Regulatory Branch will manage the funded studies (Orange County). Regulatory staff prepared the Project Study Plan. Planning Division may provide support as necessary, e.g., conducting cultural resources surveys, and will also serve in advisory role.
Expected products (especially with respect to regulatory needs)	SAMP study will include aquatic resources identification and wetland delineation, functional assessment, categorization and prioritization of wetlands according to their relative ranking, and development and analysis of management alternatives for protection of aquatic resources.
Outputs/results to date:	Scope of Work for SAMPs has been prepared

T)	The information is current as of March 1999)
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Reconnaissance Study; Authority: Santa Ana River Basin Orange County Streams, adopted by Resolution of House Public Works Committee, May 1964; House Resolution 2203 Conf Report, Sept 1997 Study purpose: provide for more effective land use decisions and environmental restoration; coordinate with other ongoing activities and studies to effect long-term decisions on a watershed planning basis; a local private interest is interested in streamlined permitting Sponsors: Orange Co. Public Facilities & Resource Dept (many partners including cities, water districts, land developers, and resource agencies).
Description of study, area, issues, etc.	Initiated FY 98; \$100,000; feasibility cost estimate: \$2.4 million (50% Federal)Study area: 154 sq. mile watershed; San Diego Creek Watershed empties into Upper Newport Bay and substantially impacts quality of pristine Upper Bay estuary, a State Preserve Numerous related Federal and state agency activities/studies: Sec. 206 aquatic restoration study; Upper Newport Bay Environmental Restoration Feasibility. Study; San Diego Creek SAMP study (So. California Aquatic Resources GI Study); proposed Natural Community Conservation Plan & Habitat Conservation Plan; TMDL studies, EPA grants (319h and 205j) Issues: numerous ongoing activities and studies regarding environmental restoration; water quality and sediment control problems; and urbanization impacts; lack of regulatory tools to determine trade-offs between flood control needs and environmental preservation and restoration on watershed-basis
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management Regulatory participation: Coordination with regulatory to ensure their views are provided on parallel study efforts; \$29,900 was budgeted for Regulatory to participate in habitat and species field surveys/mapping (\$13,000) and to participate in monthly (one-day) team meetings (\$16,900). However, Regulatory is now expected to participate only in the project team meetings to provide regulatory views/input; Regulatory will not conduct fieldwork (i.e., participate in habitat and species field surveys). A local company will gather some environmental data previously expected to gathered by Regulatory; those data will be utilized in a parallel SAMP effort (the Southern Aquatic Resources Study SAMPs; see table 5d).
Expected products (especially with respect to regulatory needs)	Study will develop baseline data (present hydrologic, water quality, sediment movement, and environmental characteristics and their relationships to present land uses); watershed plan will include identification of environmental preservation and restoration sites and site-specific, cost-shared "spin-off" feasibility studies for potential restoration sites. Some environmental data will be utilized in Southern Aquatic Resources Study SAMPs

Table 5f. San Juan Creek Watershed Management, California, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Feasibility Study (2 years); Authority: Santa Ana River Basin Orange County Streams, adopted by House Resolution, May 1964. Study purpose: develop watershed management plan & identify potential environmental restoration and flood control projects to enhance positive trends in maintaining healthy San Juan Creek watershed system. Sponsors: 14 (Orange County Planning & Development Service Dept is lead, 6 water districts and 7 cities are co-sponsors); Other partners: EPA, USF&WS, Cal Fish & Game, Cal Coastal Commission, Cal Regional Water Quality Control Board, Cal Dept Water Resources, others	
Description of study, area, issues, etc.	Initiated FY 98; \$2.26 million (sponsor contributes 25% cash, 25% in-kind services) Study area: 176 sq. mile and 27 mile long San Juan Creek watershed Reconnaissance study focused on joint Aliso-San Juan Creek watersheds; each watershed focus of separate feasibility study Issues: Channel down cutting that impacts infrastructure, habitat and slope stability; poor surface water quality (and cause); floodplain and riparian habitat loss; flooding; loss of recreation opportunities; declining water supply, depleted sand sources for coastal sand replacement; accelerated erosion; aquatic species loss; invasive species; time-consuming and costly regulatory action.	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management Regulatory: assisted preparation & cost estimation of Project Study Plan (PSP) during reconnaissance (not funded); \$70,000 was budgeted for HGM wetland assessment (not detailed) and spatial analysis of resources, land use, and cumulative impacts using GIS, including mapping of wetland permit activity; environmental planning staff are assisting in the assessment (to be conducted by a contractor) and will conduct the spatial analysis. Regulatory staff will provide oversight of assessment and other related information (e.g., permit activity); study management expects to fund regulatory oversight. While \$70,000 is insufficient to complete the comprehensive landscape-level functional assessment at a resolution useful for Regulatory purposes, the remainder of the necessary funds will come from other resources, possibly the parallel SAMP (So. CA Aquatic Resources SAMPs, see Table 5d). Aquatic resources components (as per PSP) include: activities listed above; ID of potential mitigation banking areas and other regulatory-related activities will not be directly conducted in this study (although indicated in PSP). Other aquatic resources-related components include: establish baseline and future, without-project conditions for riparian habitat, waters of the U.S., water quality, fish and wildlife, endangered species and other pertinent environmental conditions	
Expected products (especially with respect to regulatory needs)	Watershed Management Plan, multiple "spin-off" feasibility studies leading to implementable Corps/sponsor projects, e.g., environmental restoration and flood control. The functional assessment will assist Regulatory staff and aid preparation of the Southern California Aquatic ResourcesOrange County SAMPs.	
Outputs/results to date:	Reconnaissance study identified opportunities for development of an integrated watershed management plan and specific potential Federal projects addressing watershed problems	

Table 5g. Aliso Creek Watershed Management, California, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Feasibility Study (2 years); authority: Santa Ana River Basin Orange County Streams, adopted by House Resolution, May 1964. Study purpose: develop a watershed management plan and identify potential environmental restoration and flood control projects in order to enhance positive trends in maintaining a healthy Aliso Creek watershed system. Sponsors: 15 (Orange County Planning & Development Service Dept is Lead, 7 Water Districts & 7 Cities are co-sponsors); other partners: EPA, USF&WS, Cal Fish & Game, Cal Coastal Commission, Cal Regional Water Quality Control Board, Cal Dept Water Resources, others	
Description of study, area, issues, etc.	Initiated FY 98; \$1.35 million (Sponsor contributing 25% cash, 25% in-kind services) Study area: 36 sq. mile Aliso Creek watershed; reconnaissance Study focused upon joint Aliso-San Juan Creek watersheds; each watershed focus of separate feasibility phase study Issues: Channel down cutting that impacts infrastructure and habitat; poor surface water quality (and cause); flood plain and riparian habitat loss; loss of aquatic species; invasive species; flooding; loss of recreation & opportunities; time-consuming & costly regulatory actions.	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management Regulatory participation: assisted preparation & cost estimation of Project Study Plan (PSP) during reconnaissance (not funded); \$12,000 funding to conduct detailed HGM wetland assessment of riverine system (a regulator is also contributing non-funded time as part of dissertation research) and spatial analysis of resources, land use, and cumulative impacts using GIS, including mapping of wetland permit activity; environmental planning staff are providing field support to regulatory staff for wetland assessment. Although PSP identified \$30,000 for regulatory (as per Regulatory cost estimate), study funding shortfall resulted in availability of only \$12,000. Regulatory staff notes a cost estimate error in \$30,000 PSP estimate which itself would be insufficient to produce expected study products. Nonetheless, Regulatory will benefit from HGM information. Experience will aid future regulatory aquatic resource functional assessments in the region. Aquatic resources components of study (as per PSP) include: activities listed above and identification of potential mitigation banking and ecosystem restoration areas for regional 404 permit mitigation (for non-routine maintenance) and channel maintenance needs, methods, and mitigation. Aquatic resources-related components for other parts of the study (as per PSP) include: establish baseline, future, without-project conditions for riparian habitat, waters of the U.S., water quality, fish & wildlife, endangered species & other pertinent environmental conditions	
Expected products (especially with respect to regulatory needs)	Watershed management plan, multiple "spin-off" feasibility studies leading to implementable Corps/sponsor projects, e.g., environmental restoration and flood control. Regulatory aspects of plan will include identifying means to streamline regulatory actions including opportunities for SAMPs, mitigation banking, and general permits for river maintenance activities	
Outputs/results to date:	Reconnaissance study identified opportunities for developing an integrated watershed management program and specific potential Federal projects.	

Table 5h. Gila River: Santa Cruz River Watershed, Arizona, Los Angeles District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	Civil Works Planning Feasibility Study (2 years): authority: Flood Control Act 1938 (Gila River & Tribs) and House Resolution 2425, May 1994. Purpose of the study is to develop an integrated basin management plan for the river system, incorporating management opportunities in river management, ecosystem restoration, wastewater management, sedimentation, storm water quality, recharge, recreation, and resolution of hydrology. The desire to resolve hydrology generated interest in the study. Sponsor goals include streamlining of 404 process and development of potential mitigation banking structure. Sponsors: 4 (Pima Co. Flood Control District; Pima Co. Wastewater; City of Tucson Dept Transportation; and Tucson Water Dept.); other partners (none cost-sharing): other Fed agencies, AZ Dept Water Resources, AZ Game & Fish, San Xavier Indian Reservation, private interests, and others.	
Description of study, area, issues, etc.	Initiated FY98; \$2.0 million (sponsor contributing 25% cash, 25% in-kind services) Study area: part of Santa Cruz River watershed in Pima Co. (65 stream miles) Reconnaissance study focused on entire Santa Cruz River Watershed; Pima Co. only potential sponsor with financial resources for study; major tributaries may be evaluated from context of impact on mainstem Issues: Regulatory restriction; hydrology, flooding and sediment transport; and surface and groundwater resources	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management Regulatory participation: Not involved to date although aware of study; participation not specifically budgeted, Study management discussing future regulatory participation with regulatory staff Aquatic resources components of study (as per Project Study Plan) include: establish baseline, modern historic, future-without-project, and future-with-project wetlands and riparian habitat conditions; identify Sec. 404 regulatory activities and expected permitting needs; delineate U.S. waters; identify channel maintenance alternatives, permitting needs and mitigation strategies; identify and recommend areas for potential natural resource protection, ecosystem restoration sites, off-site mitigation opportunities, and mitigation banking locations (including a priority ranking system for identified areas); identify opportunities for Sec. 404 streamlining (e.g., regional permits, letters of permission for maintenance)	
Expected products (especially with respect to regulatory needs)	Watershed Management Plan, potential Environmental Restoration and Flood Control projects; multiple "spinoff" feasibility studies toward implementable Corps/Sponsor projects, including environmental restoration along Santa Cruz River and Rillito River (trib), others Regulatory products: streamlined 404 permitting (e.g., regional permit or letter of permission for channel maintenance); identified and potential mitigation sites (including banks)	

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Table 6a. Lake Belt EIS, Florida, Jacksonville District (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	EIS being conducted at Regulatory Division suggestion. Corps initiated EIS in response to rock miner consortium proposal to State and Federal governments for master "life of mining" plan; all proposed mining would require Sec. 404 permit. All parties agreed to EIS proposed by Corps. Since the study area accounts for the largest component of potential water control for the Restudy, the district engineer directed, through the South Florida Ecosystem Restoration Working Group, an Issues Advisory Team to assist the study effort. Purpose: develop plan for mining 16,000 acres, in addition to presently mined and/or permitted mining, over the next 50 years Sponsors: Dade Co. Dept Environmental Resources Management (DERM); So. Florida Water Management District (SFWMD); and rock miners	
Description of study, area, issues, etc.	Initiated in FY96; \$200,000 (SFWMD contributed 25%; rock miners 50%; Corps 12.5% & DERM 12.5%) Study area: Approx 50 sq miles in Dade Co within historic Everglades watershed in carbonate rock mining Lake Belt Area; area is within boundaries of Administration's South Florida Ecosystem Restoration Initiative (coordinated by South Florida Ecosystem Restoration Working Group). Related studies: Corps Central & Southern Florida Project Comprehensive Review Study (Restudy); South Florida Comprehensive Conservation, Permitting and Mitigation Strategy (SFCCP&MS) Issues include endangered species concerns, surface water management, water quality, habitat fragmentation, and permitting requirements and appropriate wetland mitigation.	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Regulatory Division is managing the study Planning role: Environmental Planning staff is funded to prepare the EIS. Portions of the EIS are being written by local agencies, mining interests (e.g., socio-economic analysis, etc). The development of alternatives was conducted by a consultant (referred to as the Alternatives Development Group (ADG)) and funded through the Civil Works Planning Restudy. EIS analysis: an Issues Advisory Team, established by South Florida Ecosystem Restoration Working Group developed alternative evaluation criteria, generated and evaluated alternative plans, developed a preferred plan, and recommended additional tasks, in a series of six Corps-facilitated meetings (by a consultant). The evaluation of alternatives was, in most cases, qualitative. For example, alternatives were rated as having high, medium, or low economic impactsone of 11 criteria based on measures that included costs for implementation, effects on Florida economy, and alternative rock sources.	
Expected products (especially with respect to regulatory needs)	An EIS which will provide information for subsequent individual permit decisions. A general permit is not expected since the impacts are not minimal; thousands of acres are involved.	
Outputs/results to date:	EIS in final stages of preparation. The ADG/Issues Advisory Team identified a preferred alternative that has conceptual agreement. Subsequently, a Subcommittee of Northwest Dade Co. Freshwater Lake Plan Implementation Committee (established by Florida Legislature in 1992) developed a mitigation plan for the preferred planproviding for fee collection from all mining within study area for acquisition and restoration of historic Everglades areas and for construction of structures to prevent degradation of hydropatterns in restored lands. This plan will be presented to the Florida Legislature	

Table 6b. Southwest Florida EIS (The information is current as of March 1999)		
Why and how the study was initiated (type of study, study authority, purpose, sponsor):	EIS conducted at Regulatory Division suggestion; Corps initiated EIS in response to recurring permitting issues in study area, the two fastest growing counties in Florida. Federal and State agencies fully supported Corps EIS suggestion, but initially development community and county and local governments strongly opposed approach until learning Corps had pending permit applications for over 3,500 acres of wetlands fill, any one which could trigger an EIS. Sponsors: Corps & EPA partners; although both County Commissions voted to not sign a multiparty MOU for the study, they committed to providing liaisons and planning staff support for EIS preparation; Florida Game & Fish providing in-kind services.	
Description of study, area, issues, etc.	Corps, \$250,000; EPA, \$75,000; partners Study area: Estero/Imperial Rivers watershed in portions of Lee & Collier Counties; area is within boundaries of Administration's South Florida Ecosystem Restoration Initiative (coordinated by South Florida Ecosystem Restoration Working Group). Related studies: Central & Southern Florida Project Comprehensive Review Study (Restudy); South Florida Comprehensive Conservation, Permitting and Mitigation Strategy (SFCCP&MS) Issues include endangered species concerns, surface water management, water quality, habitat fragmentation, permitting requirements and appropriate wetland mitigation, and cumulative and secondary impacts of permit-by- permit decisions.	
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Regulatory Division: managing study and funding consultants to prepare the EIS (\$75,000); facilitating development and analysis of alternatives by Alternatives Development Group (ADG); EPA funded water quality study. Planning role: Environmental planning contracted the EIS to a consultant [note: Civil Works Planning does not have a strong presence to date in Southwest Florida]. An Issue Advisory Team, established by the South Florida Ecosystem Restoration Working Group is developing alternative evaluation criteria based on 11 issues, generating and evaluating alternative plans, developing a preferred plan, and recommending additional tasks. These efforts are being produced in a series of 10 Corps-facilitated meetings (by a consultant). The evaluation of alternatives is, in most cases, qualitative. Analysis of issues and alternatives is aided by GIS which is the product of related effort, the SFCCP&MSall alternatives are digitized	
Expected products (especially with respect to regulatory needs)	An EIS; EIS products are expected to be an improved information base to make regulatory decisions, possibly a general permit, and establish a link between regulatory decisions and county comprehensive plans. Implementation of the recommendations should result in more expeditious Corps permitting. Additionally, Counties are expected to consider adopting the study recommendations in their Comprehensive Plans, resulting in greater permitting certainty for projects in compliance with those plans.	
Outputs/results to date:	The ADG has completed a report and an EIS is in preparation	

Table 6c. South Florida Comprehensive Conservation, Permitting & Mitigation Strategy for Wetlands & Other Critical Habitats, Jacksonville District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Part of the Administration's South Florida Ecosystem Restoration Initiative. Goal: consensus-based development of products and processes to improve and assist regulatory and planning decision making Participants to date: several Federal and State regulatory agencies, the Tribes, several Counties, and concerned citizens.
Description of study, area, issues, etc.	Consensus-building interagency effort for fifteen county Everglades watershed to develop system-wide integrated wetland permitting, conservation and mitigation strategy, including coordination among all levels of government, to further ecosystem restoration and conservation.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planners and regulators both participate in effort; participation fosters coordination of projects and regulatory concerns, especially within a watershed perspective. The information-sharing and tool development is especially beneficial to any watershed efforts. Expect to apply pilot tools to support a sub-regional initiative such as the Southwest Florida EIS to test the analysis methods.
Expected products (especially with respect to regulatory needs)	GIS that will provide ecosystem information to decision-makers at all government levels and the public, GIS will be dynamic. Long-term: expand pilot GIS tool to entire region, provide for easy public access, and providing for archiving and updating of data; expand number of HGM models; integrate products in Federal, State, and local agency decision making through establishment of regulatory and planning coordination teams within watersheds or Florida Dept Envir. Protection's Ecosystem Management Areas. Identification of areas where intense development pressures require further detailed assessments for planning and management purposes. Inventory of potential areas for conservation, restoration, and enhancement and opportunities to support overall restoration effort within existing programs.
Outputs/results to date:	Core group of individuals has developed consensus approaches to tasks to build the strategy and have coordinated with parallel efforts of other groups; have conducted technical workshops and local government workshops. Initial efforts include inventorying existing GIS data, methods of functional assessment, methods of acquisition or management of lands, and the decision process for permitting and mitigation. Ongoing: site-scale functional assessment model using HGM for Herbaceous Depressional Wetlands (operational draft stage); development of second Everglades flats HGM; Pilot GIS-information base.

Table 6d. Central and Southern Florida (C&SF) Project Comprehensive Review Study (Restudy), Jacksonville District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Civil Works Planning Feasibility Review Study: Reconnaissance initiated FY93; Feasibility Phase initiated FY95; Section 309(l) WRDA 92 authorized the Review Study. Section 528 WRDA 96 provides additional authorization for purpose of restoring, preserving & protecting the South Florida ecosystem. C&SF Project first authorized by Congress in 1948. Study purpose: re-examination of C&SF Project to determine feasibility of modifications needed to restore the Everglades and south Florida ecosystems while providing for other water-related needs such as urban and agricultural water supply and flood control. Study is cost-shared between Corps & So Florida Water Management District
Description of study, area, issues, etc.	Study area: Southern Florida from Orlando to Florida Bay; approx. 18,000 sq miles, including Kissimmee river, Lake Okeechobee, & Everglades watersheds. Issues: environmental restoration, urban & agricultural water supply & flood control
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Restudy planning objectives were developed using public participation & scientific knowledge. Corps restudy multi-agency team identified many plan options used by Governor's Commission for a Sustainable South Florida (GCSSF) to develop a Conceptual Plan for the Restudy. Components or Options identified by sub-regions are optimized & grouped to form alternative plans & then evaluated per multiple objectives (a screening process using multiple criteria). Regulatory staff do not directly participate on study team; regulatory staff participates episodically, especially in some related watershed studies supported by the Restudy, e.g. the Lake Belt EIS Alternative Development Group was funded by the Restudy. Multiple agency approach is assisted by GCSSF & So Florida Ecosystem Restoration Working Group in attempt to foster interagency integration for better decision-making.
Expected products (especially with respect to regulatory needs)	A comprehensive plan for overall C&SF ecosystem & tools necessary to evaluate plans & components. No specific regulatory products are expected.
Outputs/results to date:	Draft feasibility report and integrated EIS released in October 1998. Among recommendations: multiple agency effort for planning and regulatory studies to yield interagency success as well as intragency coordination.

Table 7a. Anacostia River, Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Civil Works Planning Feasibility Study authorized by House Public Works and Transportation Committee Resolution Sep 1988. Study was initiated as a result of a Phase 1 feasibility study that was completed in July 1994 which recommended that further study be done on the Northwest Branch of the Anacostia. Both the Phase I and the Phase 2 reports originally stemmed from the Reconnaissance report that was completed in December 1990. Purpose of the study is to restore aquatic and riparian habitat in the Northwest Branch watershed of the Anacostia River. Study goal is to identify projects that will ultimately maintain the parts of the watershed that have good to excellent habitat and improve the parts of the watershed that have poor quality habitat, but through environmental restoration can be improved to good quality habitat. \$ 1.92 million (Sponsor contributing 25% cash, 25% in-kind services) Primary sponsor: Montgomery County; Other partner: Maryland National Capitol Park & Planning Commission
Description of study, area, issues, etc.	Study area: Northwest Branch of the Anacostia River located in Montgomery County, Maryland. Issues being addressed are fish and wildlife habitat restoration and stream bank stabilization.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning role: study management Regulatory participation: No specific product is expected from regulatory except input and concurrence on proposed project designs, information regarding mitigation activities (proposed and/or confirmed) that may impact the study. This coordination is not intended to be time intensive and is not funded through the study. Aquatic resources components of the study (as per Project Study Plan) include: assessment of the biotic integrity and condition of aquatic and riparian habitat within entire watershed; prioritization of stream reaches for environmental restoration improvement potential; and GIS mapping will include wetland mapping.
Expected products (especially with respect to regulatory needs)	Stream restoration projects.
Outputs/results to date:	Phase 3 feasibility study is being coordinated with Prince Georges County. This study will be a combination of levee raising for flood control and environmental restoration.

Table 7b. Western Branch, Patuxent River, Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Civil Works Planning Feasibility Study (3 years): initiated FY 97 \$1.895 million (Sponsor contributing 50% of the study total - approximately 65% cash, and 35% in-kind services) Authority: Resolution of House Public Works Committee, 28 September 1994. Non-Federal Sponsor: Prince Georges County The study goal: restore aquatic, riparian, and wetland environments and enhance character, quality, and livability of the Western Branch. Two preliminary objectives: restore and maintain natural character and habitat value of stream valleys and wetlands, and restore and maintain propagation of fish, other aquatic species, and wildlife through the protection of water quality.
Description of study, area, issues, etc.	Study area: Western Branch of Patuxent River, located in the central portion of Prince Georges County, MD excluding the Collington and Charles Branches, approximately 150 linear stream miles; the Patuxent River drains 930 square miles into Chesapeake Bay. The Western Branch is one of seven priority sub watersheds identified during the Reconnaissance Study. Issues: erosion control; wetlands protection; flood damage reduction; navigation; and environmental restoration. Improper storm water management has caused extreme streambank erosion, aquatic and riparian habitat degradation, and decreased water quality. Prince Georges county was also interested in pursuing a SAMP initiative for this watershed. However, due to a conflict in the schedule, the SAMP will not be part of the planning study.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning Division staff manage the study Regulatory: Involved in preparation (& cost estimation) of Project Study Plan (PSP) during reconnaissance (Regulatory funded task); As per the PSP, \$45,760 is budgeted for Regulatory to inventory wetlands (identify existing wetland areas, and locate, prioritize, and rank potential wetland restoration sites). Regulatory Branch will participate in the Feasibility Resolution Conference, EIS review, and respond to EIS comments. Regulatory plans to re-examine the incomplete SAMP at a later date (based on regulatory budget and time allowances) and determine if an aquatic resources plan or a special permitting process should be developed (This will not be undertaken as part of the planning initiative.)
Expected products (especially with respect to regulatory needs)	Stream restoration projects and wetlands creation projects will be recommended. An integrated EIS will be developed. Prince Georges County wants a SAMP for at least the five priority Western Branch sub watersheds selected by Planning Division. Regulatory Branch will not conduct the SAMP on the same schedule as the feasibility study.
Outputs/results to date:	Reconnaissance Study identified a water resources plan consisting of specific project features implementable by various local, state, and Federal agencies as well as by private citizens and groups. Several watersheds were selected as potential projects to be investigated in more detail, including the Western Branch.

Table 7c. Baltimore Metro 2 (Tiber Hudson/Deep Run), Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Civil Works Planning Feasibility Study (3 years): initiated FY 96 \$1.0 million (Sponsor contributing 50% of the study total - of which, approximately 95% cash and 5% in-kind services) Non-Federal Sponsor: Howard County The final reconnaissance report included a positive recommendation for further examination of environmental restoration opportunities within five watersheds (Gwynns Falls, Curtis Bay, Longwell Branch, Deep Run, and Tiber-Hudson) and the Patapsco River/Baltimore Harbor. Study goal: restore the aquatic, riparian, and wetland ecosystem within the Deep Run and Tiber-Hudson watersheds.
Description of study, area, issues, etc.	Study area: The study area is located within a highly developed eastern portion of Howard County, Maryland. Deep Run is near Elkridge and contains approximately 75 stream miles and drains approximately 13 square miles. The majority of Deep Run lies within Howard County; however, a small portion, not included in this study lies, within Anne Arundel County. Tiber-Hudson encompasses Ellicott City and contains approximately 8.5 stream miles and drains approximately 3 square miles. Issues: Degradation to the in-stream, riparian, and wetland habitat quality. Need to identify restoration opportunities throughout the watersheds.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning: Oversees the feasibility study, including defining the existing conditions, completing the plan formulation and documenting the process. Regulatory: Provided assistance to Planning during identification of existing project to see how a partnership between Planning and Regulatory would work.
Expected products (especially with respect to regulatory needs)	Regulatory is providing a summary of the wetland conditions and opportunities for each watershed. The feasibility report will result in recommendation of stream restoration and wetland creation projects in the watersheds.
Outputs/results to date:	Plan formulation and detailed designs for the selected plan has been completed. A draft report was expected to be completed in February 1999.

Table 7d. Western Branch, Patuxent River SAMP, Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	The SAMP was originally scheduled to be conducted in conjunction with Civil Works Planning Feasibility Study (3 years): initiated FY 97 (See Table 6b). Due to regulatory funding and workload issues the SAMP will not be completed along with the Planning Study. Funding was designated for the Regulatory tasks in the Project Study Plan. Authority: In order to review the cumulative impacts of all the separate Section 404 activities under consideration for permit decisions within the watershed, the Regulatory Branch decided to initiate a SAMP. Sponsor: Prince Georges County, MD Study goal: restore aquatic, riparian, and wetland environments and enhance character, quality, and livability of the Western Branch. Two preliminary objectives: restore and maintain natural character and habitat value of stream valleys and wetlands, and restore and maintain propagation of fish, other aquatic species, and wildlife through the protection of water quality.
Description of study, area, issues, etc.	Study area: Western Branch of Patuxent River, located in the central portion of Prince Georges County, MD excluding the Collington and Charles Branches, approximately 70 square miles and 62 linear stream miles; the Patuxent River drains 930 square miles into Chesapeake Bay. Issues: erosion control; wetlands protection; flood damage reduction; navigation; and environmental restoration. Improper storm water management has caused extreme streambank erosion, aquatic & riparian habitat degradation, & decreased water quality.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning Division staff manage the study Regulatory: Involved in preparation (& cost estimation) of Project Study Plan (PSP) during reconnaissance (regulatory funded); As per the PSP, \$45,760 is budgeted for Regulatory to inventory wetlands and to provide the study team with recommendations for wetland creation opportunities (These efforts include the identification existing wetland areas, and the location, prioritization, and ranking of potential wetland restoration sites). Regulatory Branch will participate in the Feasibility Resolution Conference, EIS review, and respond to EIS comments. Regulatory plans to re-visit the incomplete SAMP at a later date (based on regulatory budget and time allowances) and determine if an aquatic resources plan or a special permitting process should be developed. [This will not be part of the planning initiative]
Expected products (especially with respect to regulatory needs)	Regulatory has temporarily halted the SAMP due to lack of staff and funds. It is anticipated that the SAMP will be re-started once the necessary resources have been identified.
Outputs/results to date:	Field data has been collected on the priority sub-watersheds. Regulatory has provided Planning with data that identifies potential wetland creation and restoration sites as well as mitigation banking opportunities.

Table 7e. Back River Neck/Middle River Neck/Vincent Farms SAMPs, Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	Baltimore County submitted a permit application to emplace 53.8 miles of sewer line within the three SAMP areas. In order to take into account the secondary and cumulative impacts that would result from the placement of the sewer line, SAMPs for the study areas were made a condition of the permits. Three SAMPs were developed (Back River Neck/ Middle River Neck/ Vincent Farms). These SAMP areas were then divided into smaller study areas based on the anticipated placement timing of the phases of the sewer line. Non-Federal interest: Baltimore County
Description of study, area, issues, etc.	Study area: Peninsulas of the Back River Neck and the Middle River Neck and Issues: County sewer project has been proposed for locations within the three SAMP areas. Collectively, the sewer line measures approximately 53.8 miles and would service the existing developments. SAMPs were required as a condition of the permits for the sewer line. (Permits for each sewer study area have been issued, including Individual and Nationwide permits as well as Maryland State Programmatic General Permits.) The SAMPs focused only on the in-fill lots within the study areas.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning Division was not involved in this initiative. Regulatory is overseeing the SAMP development and implementation, and provided funding for its staff to participate in the tasks associated with the data collection and analysis. Regulatory leads the SAMP team, which also includes state and county resource agencies. The team was responsible for collectively developing and implementing the functional assessment framework. The wetland delineation, surveying, and mapping were completed by the SAMP team and a private consultant that was hired by the county. The Corps field verified (spot-checked) the delineation prior to completing the functional assessments on the three SAMP areas, and the consultant is working with the team members to develop the final documents.
Expected products (especially with respect to regulatory needs)	The final documents have provided the official wetland delineation, provided information on the functional assessment, determined the cumulative impacts resulting from the sewer line placement, and provided advanced permitting decisions on the in-fill lots within the study areas. The county will also use these documents to identify potential mitigation sites. A General Permit is anticipated, once all documents are developed.
Outputs/results to date:	A Corps-verified wetland delineation has been completed for all in-fill lot areas within the study areas and a functional assessment has also been completed for the same area. Public meetings on the SAMP areas as well as on the documents completed to date have been held. As a result of the released documents, advanced permit decisions on the infill lots have been provided.

Table 7f. Swan Creek, Bynum Run, Winters Run Stream Corridor Inventories, Maryland, Baltimore District (The information is current as of March 1999)	
Why and how the study was initiated (type of study, study authority, purpose, sponsor)	The first of the three studies was in the Swan Creek watershed. The county was interested in having more information on the condition of the stream corridors as well as in having the identification of restoration/ improvement sites that would help improve the health and stability of the watershed. Non-federal interest: Harford County, MD The Stream Corridor Assessments provide information on individual problem sites, which allows for the analysis of the cumulative effects of these human activities on the aquatic environment throughout the watershed.
Description of study, area, issues, etc.	Study area: The three study areas are located in Harford County, Maryland. The size of the watersheds are as follows: Swan Creek is 24 square miles, Bynum Run is approximately 25 square miles, and Winters Run is 64 square miles, as calculated by Harford County, MD Department of Public Works. Issues: Each of these watersheds has various pressures and activities occurring within their boundaries. The aquatic systems are reacting to these activities and many are in need of restoration or improvement. Harford County, Maryland was interested in working with the Corps to assess and evaluate the conditions of these systems.
Characterization of planning and regulatory roles and level of participation, sharing of funds and other resources:	Planning Division was not involved in this initiative. Regulatory is an active member in the priority assessment team, which also includes state and county resource agencies. In addition, the Maryland Conservation Corps has participated in the majority of the fieldwork. The team collectively developed the stream corridor assessment framework, using the Save Our Streams data sheets as a reference. Harford county provided funding to the Conservation Corps to help off- set their labor costs.
Expected products (especially with respect to regulatory needs)	The information that is being gathered in the field is being transferred to the county GIS database. Regulatory can use this baseline information when reviewing permit applications for that area. The information gathered is also useful to the county in the development of grant applications for restoration or enhancement activities.
Outputs/results to date:	The information collected to date has provided useful baseline information for assisting in permit evaluations and valuable watershed information for justifying grant requests. The assessments have also identified numerous stream corridor restoration opportunities, including possible mitigation sites.